Med Trib 10

Medical Tribune

and Medical News

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Vol. 15, No. 10 — world news of medicine and its practice—fast, accurate, complete — Wednesday, March 13, 1974

Isotope Scan Gives Details Of Infarction

Medical Tribune Report

NEW YORK—A newly developed test, using tetracycline tagged with a radioisotope, has made it possible for the first time to visualize an acute myocardial infarction in man by noninvasive external means, a Harvard team reported here.

Early clinical trials in 28 patients showed that the tagged antibiotic, intravenously injected, was able to "detect, size, and localize" accurately the acutely infarcted myocardium 24 to 72 hours after a cardiac episode, the American College of Cardiology was told by Dr. B. Leonard Holmnn, Assistant Professor of Radiology at Harvard Medical School.

The scans were consistently normal in non-heart patients and in cardiac cases without clinical evidence of infarction, he said.

The key to the test, Dr. Holman and his colleagues reported, was the observation by a Czech investigator that tetracycline binds to necrotic tissue but not to tissue that is merely ischemic. In preliminary studies by the Harvard group, the fluorescence of tetracycline was used to identify experimental AMIs.

The noninvasive technique became available when the team developed a

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Transfer Factor Adds To Life of Patients With Osteosarcoma

By FRANCES GOODNIGHT
Medical Tribune Staff

NEW YORK—Findings from studies of patients with osteosarcoma were cited here by a California immunologist as fresh support for two beliefs—that this cancer is induced by an environmental agent ("presumably viral") in persons with selective defects in cellular immunity ("presumably on a genetic basis") and that giving transfer factor to such patients can prolong their lives.

Dr. H. Hugh Fudenberg, of the University of California Medical Center, San Francisco, said the investigation focused on the ability to lymphocytes drawn from various subjects to kill osteosarcoma cells.

Immunity Higher in Contacts

Specific cell-mediated immunity against this tumor was found in a significantly higher percentage of household contacts of patients than among persons without known exposure to it, Dr. Fudenberg told the ninth Gustav

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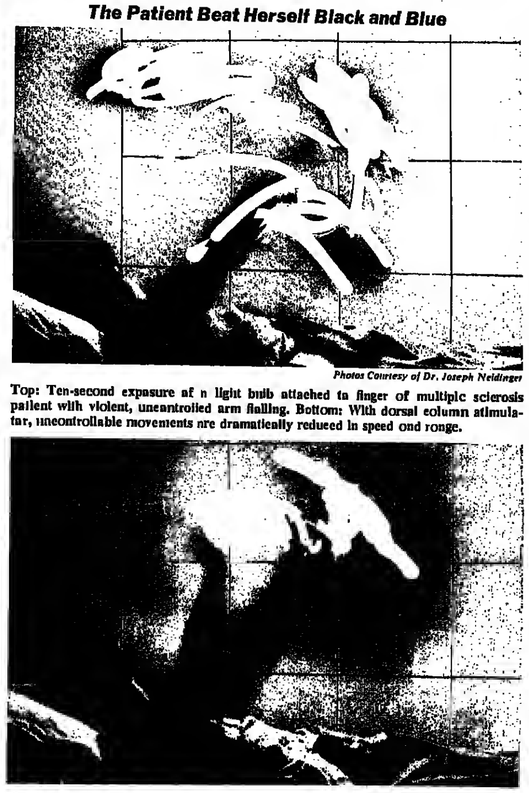
The Patient Beat Herself Black and Blue



Photos Courtesy of Dr. Joseph Neidinger

Top: Ten-second exposure of a light bulb attached to finger of multiple sclerosis patient with violent, uncontrolled arm flailing. Bottom: With dorsal column stimulator, uncontrollable movements are dramatically reduced in speed and range.

Pain, Flailing of MS Eased By Dorsal Column Stimulator

By PETER ALBERTSON
Special Tribune Correspondent

NEW YORK—For 30 months Mrs. R.—a multiple sclerosis patient for 35 of her 55 years—had been in a wheelchair much of the time, although with cane or crutches she could hobble a dozen feet. For her severe and intractable back pain, which may have been related to the MS, Dr. Albert W. Cook, Professor of Neurosurgery and chairman of the department, Downstate Medical Center, Brooklyn, implanted a dorsal column stimulator (DCS).

Not only was her pain relieved, but Mrs. R became able to drive a car and walk with little difficulty. She went on a tour of Europe with no aid except DCS.

"This is functional improvement alone; we are not doing anything about the basic course of the disease," Dr. Cook cautioned in a MEDICAL TRIBUNE interview, "and further testing must be done before we can draw definite conclusions." Meanwhile, he has implanted dorsal column stimulators in 30 MS patients and says he is generally optimistic about patients with less severe disease.

Mrs. R.—the first patient—is not untypical. Severe paraparesis at hip and knee prevented her from lifting her leg while lying supine. She had a mild hyperreflexia in the lower legs and no abdominal cutaneous reflexes. Once DCS was implanted, she had a full range of volitional movement of nearly normal strength at hips and knees, and electromyography showed a

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No Payments To Outpatient —Blue Cross

By KEN SANDLER
Medical Tribune Staff

NEW YORK—A trend toward outpatient management of some surgical patients—avoiding the hospital bed—has run into an obstructive refusal by some Blue Cross plans to pay for essential postsurgical maintenance and care.

Blue Cross executives in this and some other areas would rather continue paying for the more expensive hospitalization because the expansion of outpatient procedures will, they believe, encourage a hospital-bed surplus and the unnecessary hospital admissions that sometimes follow an excess of beds.

Blue Cross is instead trying to tie outpatient surgical coverage to a simultaneous reduction in the number of hospital beds in areas where there are bed surpluses, such as New York City—but is having no success here.

Conflict Surfaced After Meeting

The conflict came to light after a meeting between the senior vice-president of the New York City Blue Cross plan and eye surgeon Dr. Miles Galin—who has developed an outpatient surgical procedure for cataract removal (MEDICAL TRIBUNE, September 26, 1973).

Dr. Galin, who is Professor of Ophthalmology at New York Medical College–Flower Fifth Avenue Hospital, immediately sends patients home or to a hotel across the street from his office. They are free to roam about the city but must visit Dr. Galin for observation.

Since Flower Fifth Avenue charges

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INSIDE THIS ISSUE

Visitors Impressed by N. Vietnam Medicine

Medical Tribune Report

NEW YORK—The first U.S. medical men to make a working visit to Hanoi since the Paris agreement have returned to the United States with good impressions, medical and political.

The working visitors were Dr. David Kimmelman, associate attending surgeon, New York Eye and Ear Infirmary, and Paul Scheman, D.D.S., director of dentistry and head of the Craniofacial Rehabilitation Center, Kingsbrook Jewish Medical Center, Brooklyn. Dr. Kimmelman's wife, Edythe, a sculptor and formerly an occupational therapist, and his 15-year-old son, Michael, accompanied them.

Mrs. Kimmelman worked with Hanoi experts on the development of cosmetic prostheses, and their son worked as a general aide in two hospitals during the month-long visit.

Drs. Kimmelman and Scheman were struck by North Vietnamese familiarity with the medical literature, but Dr. Scheman said, "this engendered certain problems.

"At the Institute of Stomatology, I found that in my own field, maxillofacial surgery, they were doing certain procedures from the textbooks, surgery that nobody had shown them how to do. Somehow, when I used to do an operation from a textbook, it didn't turn out right. But when I had the chance to watch it being done and *then* did it, it went fine. And it was just the same in Hanoi."

Few Maxillofacial Surgeons

Dr. Scheman added that the maxillofacial surgeons with whom he worked in North Vietnam "are as good as anybody I've ever seen. There just aren't very many of them."

Dr. Kimmelman said that the surgeons with whom he worked "had an awful lot of surgical skill—even with the lousy instruments they were using." He worked with about 100 ophthalmologists and performed about 25 operations during his visit, in addition to lecturing. He too was impressed with his hosts' professionalism but found that he often differed with them on the best way of handling a medical problem.

"I tended not to see surgery as the answer as often as some of the younger ophthalmologists and did not perform some of the more radical procedures as readily as they. On the other hand, some of the procedures they feared to do were indeed too radical."

The North Vietnamese have mounted a large political-medical campaign against trachoma, he said, and are beginning to treat the fresh cases, the majority of which occur in children under five years. Dr. Kimmelman dealt, in the main, with rehabilitation of patients with long-standing trachoma, but he also treated a variety of other eye disorders.


Dr. Kimmelman (directly facing instrument) instructing N. Vietnamese physicians.

Dr. Scheman also found himself differing with the Vietnamese on a number of approaches. For example, he said, they are still closing cleft palates, which he does not advise.

"I don't believe in closing the palate but in opening it to allow the jaw to grow more naturally, to preserve as much as possible of the normal architecture of the mouth.

"Also, I found that they were doing rather radical procedures—again from the textbooks—for conditions that didn't warrant them. To take care of a cyst, for example, they would go in with a big curette and take out the whole area, when all they had to do was remove the cyst and keep it open so it could decompress and let the bone grow in again. I tried to impress on them my belief that you don't overtreat or do more than is really necessary."

Supplies Taken as Gifts

The New Yorkers took with them about $30,000 worth of medical supplies and instruments as gifts, including two portable operating microscopes, which Dr. Kimmelman said the surgeons had heard about but had never seen. "These enabled them to do microsurgery that they had never been able to perform before. And we brought an indirect ophthalmoscope of the newest type, also something they had never used."

"Even though they are a very proud, dignified people, they are also a very gentle people," Dr. Scheman said.

"I was never made to feel as if I were an enemy come to make reparations. They kept talking about Johnson's war, Nixon's war, and telling me that they knew the war was not the will or desire of the American people. They said that they knew the Tonkin Gulf affair was a phony and that the American people had been gulled into accepting the war at the beginning."

Dr. Kimmelman, who described the trip as "the most important experience of my life," also characterized the North Vietnamese as "dignified, kind, gentle, confident of an ultimate victory for their beliefs. But there was a remarkable attitude toward us—no prejudice toward us as Americans."

Children, Old People Revered

One of the most interesting and moving things about the North Vietnamese is their reverence for children and old people, Dr. Scheman said. "They cherish them; they are their future and their past." It was that concern that indirectly made a problem for their doctors.

"During the war, when the U.S. was bombing the hell out of the Northern cities, the young and the old were moved to safety in the countryside. But that removed them from centers where there was sufficient skill to provide medical care, and so treatment for any

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ECTOPIC BEAT

"Some students who elected to go temporarily without food became progressively less enthusiastic about the program the longer they abstained from eating."
—*Journal of Nutrition Education.*

That's today's youth for you!
Apathetic! Unenthusiastic!

(Register book Traumatic Medics, page 33.)

Radon in Air Peril To Lungs of Miners

Medical Tribune World Service

STOCKHOLM—Lung cancer is an occupational risk in any miner working where radium is present as a trace element, an investigator said after a study among underground iron-ore workers in Malmberget, in northern Sweden.

When those who were miners in the years 1961 to 1972 were compared with a nonminer reference group, their lung cancer mortality was found to be 14 times as high.

The rock walls of the Malmberget mines contain traces of basic elements in the uranium series. The high frequency of lung cancer in the workers is probably related to the presence of uranium in the rock and ore and to the radon concentration in the air, according to Dr. Karl Goran St. Clair Renard, a mining company physician, who carried out the investigation.

"Even if the possibility of other related or combined effects can be considered," he reported in *Läkartidningen*, "radon now appears to be the most significant factor."

Correction

The address of SPUN (Society for the Protection of the Unborn through Nutrition), Chicago, was given as 5 South Wabash in a report in MEDICAL TRIBUNE, February 13. Read it: 5 North Wabash.

news index

CLINICAL NEWS NOTE: *"The North Vietnamese believe that there has been a higher incidence of congenital defects since the bombings and defoliations with chemical agents." (Dr. David Kimmelman; see page 3.)*

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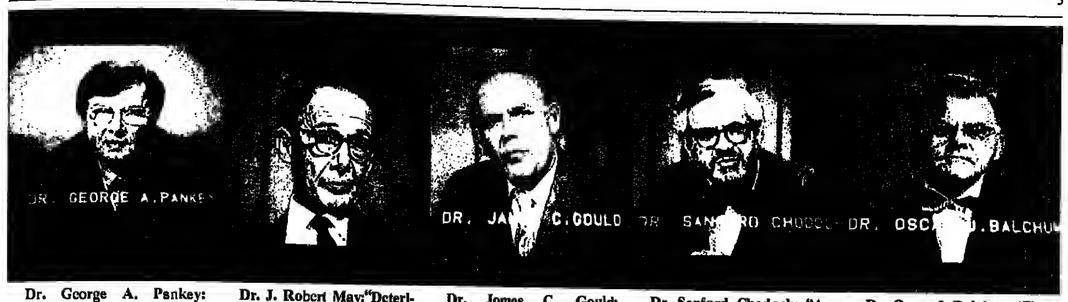
Research

Surgery: pgs. 1, 3, 32, 35

FEATURE INDEX

MEDICAL TRIBUNE *is published each Wednesday except on Jan. 31; May 30, Aug. 29, and Oct. 31, by Medical Tribune, Inc., 880 Third Ave., New York, N.Y., 10022. Controlled circulation postage paid at Farmingdale, N.Y., 11735. Subscription $12.50, Students, $7.50.*



Dr. George A. Pankey: "The agents of choice are the tetracyclines or ampicillin in full doses for at least 10 to 14 days."

Dr. J. Robert May: "Deterioration of respiratory function occurs . . . more frequently in those with a history of two or more lower respiratory infections."

Dr. James C. Gould: "Some persons, in my experience, undoubtedly do benefit . . . when they are transferred to a more equable climate."

Dr. Sanford Chodosh: "As we get to know more about bronchitis . . ., we'll not be surprised to find [it] is represented by 10 different diseases."

Dr. Oscar J. Balchum: "I've become more and more impressed by even minimal symptoms of cough and expectoration . . . rather than by the sputum volume."

Bronchitis Panel Answers Queries Via Satellite

Medical Tribune World Service

LONDON—An Anglo-American symposium on bronchitis, originating in London, was transmitted via satellite to receiving centers in eight major cities in the United States, where members of the audience were able to question the panelists directly.

The panel was composed of Drs. George A. Pankey, chairman, of Tulane University School of Medicine, New Orleans; Oscar J. Balchum, of Southern California School of Medicine, Los Angeles; Sanford Chodosh, of Tufts University School of Medicine, Boston; James C. Gould, Western General Hospital, Edinburgh; and J. Robert May, University of London.

In his summary, Dr. Pankey observed that while there was no clear pattern of causes of bronchitis, it was clear that most sufferers had infection as a major part of their history. Many were smokers, and many were exposed to considerable environmental pollution.

The American College of Chest Physicians and Pfizer Laboratories were cosponsors of the symposium.

Scholarship Marks Death Of American Indian MD

Medical Tribune Report

ALBUQUERQUE, N. MEX.—The death of one of only three full-blooded American Indian physicians has been marked by the establishment of a scholarship fund for Indian medical students.

Scarcely a month before he died on December 30, 1973, from what were described as complications of a chronic lung disorder, Dr. Beryl Blue Spruce, 39, of the Pueblo tribe, described the obstacles confronting an Indian trying to become a medical doctor (MEDICAL TRIBUNE, November 28, 1973).

The Dr. Beryl Blue Spruce American Indian Medical Student Scholarship Fund is currently directed by Dr. Jerry S. Bethke, 1033 Jefferson North East, Albuquerque, N. Mex., 87110.

Dr. Blue Spruce, known to his people by a name meaning "Snowfrost," was buried in traditional ceremonies during a snowstorm on January 1 in San Juan, N. Mex.

Doctors' Debate

MEDICAL TRIBUNE frequently receives extensive and well-documented communications from physicians on current subjects of controversy or those of great current medical interest. We invite contributions in these areas for presentation in this new feature.

Death Belongs to Physician

The matter of determining or certifying death continues to plague a number of our abstract philosophers. The consensus in protocol and at least legislatively is that the determination of death is the responsibility of physicians, basing their decision on customary standards of medical practice.

It should be further clarified that the determination of death is a diagnosis. If this simple fact of practice is understood, there is less controversy.

The public as a whole, and individuals in particular, go to the physician for the diagnosis of a variety of complex, subtle, and sophisticated diseases. They trust their physicians.

The guidelines for physicians are threefold. First and foremost is the physician-patient contractual relationship. This may be implied or explicit. When a patient comes to a doctor's office or when a patient enters a hospital, he expects to have his condition or his disease treated and rectified. Second, there is an ethical guide which mandates that the physician shall do everything to the best interests of the individual patient. To do the best things to the best interests of society primarily would lead us into a Pandora's Box of physicians with an unacceptable power—a utilitarian ethic and a disrespect for life. The physician's ethic can best be summarized for a civilized society in the simple phrase: "Love thy neighbor, and do unto others as you would have them do unto you."

Third, the physician is guided by scientific competence in making decisions, whether it relates to cancer of the stomach, gallbladder disease, brain tumor, or indeed the recognition of the irreversibility of functional processes. After assessing the presenting factors (signs and symptoms), he may appropriately come to a decision, based only on his objective criteria.

Since death is a diagnosis and since it is faced continuously by physicians in practice, it is curious that we have so many philosophers in the abstract, who intrude into an area in which they have little or no expertise and indeed competence. For Robert Veatch to intrude into the area of science is indeed not just a curiosity but also an insidious activity that only leads to confusion in the public mind.

Before Mr. Veatch starts commenting on highly technical elements, such as that presented by Dr. Boshe on EEG activity or on other criteria, which together result in a diagnosis, Mr. Veatch should take an adequate internship as a hospital chaplain or philosopher and be a firsthand observer of the diagnostic process. To be tempered in the fire of actual duty, obligation, and responsibility usually enables a person to gain a respect for life and to understand the dilemmas that may be faced. Until this is done, armchair philosophers should cease and desist from creating an atmosphere of fear and chaos.

There comes a moment of truth at the bedside of a patient with a serious illness, who indeed may be in the dying process. This moment of truth is a time of decision for a physician. It is not a time of decision for philosophers. The over-all statement "the patient as a person" should be the determinant.

VINCENT J. COLLINS, M.D.,
Chairman, Department of Anesthesiology
Cook County Hospital
Chicago

Surgical Approach to the Lumbar Disk

I cannot agree too strongly with Dr. J. Dewitt Fox that most neurosurgeons would take exception to Dr. Norman Shealy's approach to the lumbar disk syndrome by attacking what he feels to be the mechanism of pain conduction. Aside from the inherent unsoundness of attacking any pain problem as the primary target in a disorder where pain has a correctable or removable source, it is my feeling that the reputation for poor results in the surgical management of lumbar disk and related syndromes is largely unjustified and mostly related to poor comprehension of the problem, with resultant poor selection of patient and poor selection of operative procedure.

The dwelling, by both Dr. Shealy and Dr. Fox, on the fallibility rate of myelography makes at least part of my point. The diagnosis of herniated nucleus pulposus is a *clinical* diagnosis based on history and careful neurologic examination. In my opinion, myelography is not indicated and should not be done where the history and findings are unequivocal and the level of disability and duration of symptoms indicate the necessity for surgery. In my opinion, myelography has a substantial fallibility rate (whether 15 per cent or 30 per cent is immaterial), and its usefulness is primarily in those atypical back and radicular syndromes where bilaterality of symptoms and/or findings, or the indication of multiple segment involvement, may suggest other problems.

My experience of nearly 30 years in

Continued on page 26

Exercise Stressed to Reduce Crippling of Hemophiliacs

Medical Tribune Report

NEW YORK—The key roles of exercise and nonsurgical management in preventing or lessening the musculoskeletal crippling of hemophilic patients were described here by Dr. Shelby L. Dietrich, of Orthopaedic Hospital, Los Angeles.

Dr. Dietrich, who heads the hospital's hemophilia treatment center, now with some 300 patients, said its habilitation program rests on the Hippocratic maxim that "activity strengthens and inactivity weakens."

Patients are urged to take part in functional and recreational activities appropriate to their age after evaluation by a multidisciplinary team, she said, speaking at a conference on hemophilia cosponsored by the New York Academy of Sciences and the National Hemophilia Foundation.

Emphasizing the importance of prompt attention to a hemarthrosis, Dr. Dietrich advised that treatment with plasma concentrates should begin even before swelling is evident. If an effusion is present in the knee, ankle, or elbow, the center's policy is to perform aspiration under coverage of concentrate when the level of factor VIII or factor IX reaches 30 per cent of normal.

On Crutches for Day or Two

After aspiration of the knee, the patient uses crutches for one to two days. Isometric quadriceps exercise is started when the affected knee is pain-free, and the patient later progresses to more active exercises.

A study at the center of 50 knee arthrocenteses managed in this manner showed a significant decrease in the short-term morbidity associated with hemarthroses, although the ultimate effect of such therapy on the development of chronic hemophilic arthropathy is not yet known.

Hemorrhage into a major joint may initiate a cycle of bleeding, immobilization, atrophy of muscles adjacent to the joint, weakness, and synovitis—a situation Dr. Dietrich describes as leading almost inevitably to recurrent bleeding, chronic synovitis, and finally cartilage and bone destruction.

Prevention of this cycle, and arrest of progressive joint damage, may be possible "by vigorous and early application of medical, orthopedic, and physical therapeutic measures."

The center employs daily short-term prophylaxis with the proper concentrate to protect the joints from further bleeding and to permit active strengthening exercises. When synovitis is a prominent finding, treatment includes administration of anti-inflammatory drugs (in short courses) as well as analgesics.

The treatment of chronic synovitis of the knee begins with isometric and active-assistive exercises and progresses according to the patient's tolerance. Concurrently, a special cylinder case or splint may be used to protect the knee.

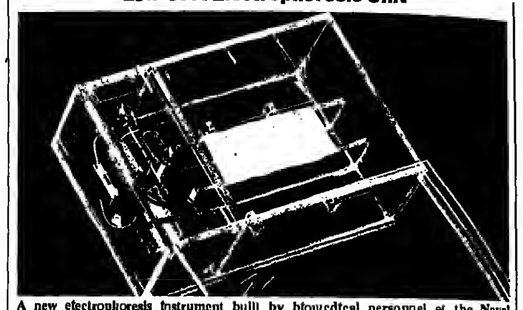
Plasma Concentrates Given

Rehabilitation of the hemophiliac who has undergone reconstructive surgery does not differ significantly from that of the nonhemophilic patient recovering from a similar procedure, Dr. Dietrich said. Plasma concentrates are given to maintain a factor level of 30 per cent of normal during the postoperative period, and appropriate exercise is started at that time.

'Family Medicine Units'

MONTREAL — Government-financed "family medicine units" are being set up in five hospitals affiliated with McGill University to look not only at patients but also at relevant social pressures on their families.

Low-Cost Electrophoresis Unit



A new electrophoresis instrument built by biomedical personnel at the Naval Electronics Center in San Diego costs only $150, including parts and labor. The cell, using a built-in power supply and an acrylic body, is based on a design developed at Yale-New Haven Hospital.

One Man... and Medicine

ARTHUR M. SACKLER, M.D.,
International Publisher, Medical Tribune

Postmortem

When Doubleday sent me the book *Post-Mortem*, I noted the author was David M. Spain, a physician often in the news in civil-rights cases. In the line of duty, I tackled *Post-Mortem*. What I found was interesting. I thought the book would plug political pathology—it told of a highly personal pathology. I expected passionate partisanship—I found the author revealed as a liberal but a pathologist who tries to put his prejudice and preferences aside when he picks up his scalpel for a post-mortem.

"*It would seem that unremitting exposure to so much ugliness, pain, and deceit would instill a cynical and despairing view of humanity. However, the contrary is true.*" Before going forward to the dissecting table and studying the "*cut up bits of former life.*" Dr. Spain has "*a self-imposed daily routine of silent prayer composed of the words spoken by Shakespeare's Hamlet: 'What a piece of work is man! how noble in reason! how infinite in faculty! in form and moving how express and admirable! in action how like an angel! in apprehension how like a god! the beauty of the world! the paragon of animals!*' "

With genuine humility, this pathologist examines himself again and again, challenging his own preconceptions, often altering his viewpoint. "*I firmly believed that a doctor had no right to play God and decide when to terminate life. I was categorically opposed to abortion, euthanasia, and suicide. My role was to prolong life, no matter what, even if the patient was dying and in the throes of an agonizing seizure.*"

I, personally, have long believed and still believe in the right of the individual to abortion and euthanasia, but I am becoming more concerned with the doctor's "right to play god and decide when to terminate life." Dr. Spain has moved the other way and relates it to his experience with murderous illegal abortions and unwanted and battered children.

A Question of Suicide

In respect to suicide, Dr. Spain writes a revealing and touching passage: "*A meeting with a Catholic priest over the wording on a certain death certificate helped me. . . . In my first week as medical examiner, I had certified the death of a middle-aged Catholic man as 'Suicide caused by self-inflicted gunshot wound of the head.' The same day, shortly thereafter, a young Roman Catholic priest from a Yonkers parish came to discuss the wording on this death certificate. He discreetly explained that he had no desire for me to alter my professional evaluation of this or any other case. He then told me something I should have known but of which I confess complete ignorance at that time. The Catholic Church regards the taking of one's own life as a sin, and for this reason the victim cannot be buried with the full sacraments. I suddenly realized that that was the way I felt about suicide too, and that it certainly was no distortion or compromise with the truth to add, 'while temporarily mentally disturbed.'*"

How human and humane a reaction.

Dr. Spain's partisanship is clearly stated and equally clearly put aside again and again for nonpartisan and bluntly honest positions as dictated by his findings of fact. Does this "civil-rights pathologist" let his heart rule his head in favor of the poor or the little man, regardless of the evidence? No; with him the facts rule. Witness his findings in a suicide case wherein the surviving wife would have received double indemnity if Dr. Spain had not noted that, though the man was killed by a train while ostensibly fixing a flat tire, he, the pathologist, helped determine that no tire on the car was flat.

"*If this staged suicide had not been exposed, the family would have received the one hundred thousand dollars. The testimony of the train engineer, the absence of any defects in the tire, the seemingly contrived hand smudges, and the background of the personal and financial difficulties convinced me that this was a case of suicide. . . . The jury upheld my official opinion and returned a decision in favor of the insurance company.*"

Letting Facts Rule

When called as an outside pathologist in regard to several suicidal deaths at "The Tombs" prison in New York City, Dr. Spain found one of them suspicious of homicide and, as to the other, the "*autopsy revealed no evidence of any beating, and the findings supported the original conclusion that Roldon's death had been suicide by hanging. I reported to the Lords that I concurred with the medical examiner*

Continued on following page

Low Renin's Protective Role In Hypertension Unverified

Medical Tribune World Service

LOUVAIN, BELGIUM—The hypothesis that low renin activity protects hypertensive patients against stroke and heart attack is not supported in a retrospective study of 59 patients hospitalized and discharged with a final diagnosis of essential hypertension.

The patients were divided into three groups on the basis of plasma renin determinations by Drs. Roland Stroobandt, Robert Fagard, and Antoon K. P. C. Amery at the Hospital St. Rafael here.

There were 20 patients in the low renin group (concentrations below 7 units per ml.), 19 in the middle group (7 to 13.9 units per ml.), and 20 in the high renin group (concentrations above 14).

The investigators found no significant differences among the three groups with respect to other known risk factors for cerebrovascular and coronary heart disease, including sex, age, family history, obesity, cigarette smoking, blood pressure, and plasma cholesterol and lipids. But unlike earlier investigators, they found no significant differences in incidence of stroke, heart-failure, and heart attack in relation to the different plasma renin levels.

In the high renin group, one patient had all three complications and two had heart attacks; in the middle group, one patient had both heart-failure and heart attack and two had strokes; and in the low renin group, two had heart failure, one had stroke, and one had heart attack.

The investigators suggest that until large-scale prospective investigations are undertaken, therapeutic considerations derived from the existing data could be premature.

Swiss Smoking Doubles

Medical Tribune World Service

GENEVA, SWITZERLAND — Cigarette consumption per capita has doubled in Switzerland during the past 10 years, according to statistics of the Anti-Alcoholic Association of Switzerland, and pulmonary cancer mortality has been climbing almost as fast.

One Man & Medicine

Continued from preceding page

in the finding of suicide." When the Young Lords, a militant Puerto Rican group, tried to distort his findings, Dr. Spain informed them: *"In the future we will deal with each other on a day-to-day basis of mutual mistrust."*

"Madison Avenue Murders"

In his section on "Madison Avenue Murders," Spain reviews his participation in the studies and reports which indicted cigarettes in regard to lung cancer. It was a fight to which he is passionately dedicated. *"It makes my hackles rise to hear patients say: 'My doctor is a regular guy: he lets me do anything I want.'"* He attacks the A.M.A. for accepting a $10,000,000 gift from the Tobacco Research Committee.

He also seeks to dispel two current myths. Advocates of the legalization of marijuana claim that the smoke of "grass" is not cancer producing. *"To the contrary, recent studies indicate that smoking of five joints a day, with the holding of each puff in the lungs ten seconds, has the equivalent adverse effect on the lungs as smoking more than a pack of cigarettes. The other illusion is that a safe cigarette will soon appear on the market."* This he does not foresee. *"Approximately one million lung-cancer deaths have been reported in this country alone since the day I saw a case of lung cancer for the first time—over thirty years ago, at the Baltimore City Hospital."*

Dying From 'Cures'

David Spain writes: *"Any rational individual will agree that, on the whole, modern medical practices have done vastly more good than harm. Nevertheless some patients do die from their cures. . . . I have written a textbook for the medical profession on this subject of doctor-induced diseases. . . . Ironically I found myself on the side of the defendant, the gigantic International XYZ Chemical Corporation."* In this case, the claim was made that a drug was responsible for a particular pulmonary condition. *"In reviewing the history of the case . . . I became convinced that* [the] *original physician was the real culprit. . . . I did not find the drug company derelict. . . . It was large, rich, and impersonal. It was logical to attack it . . . and despite evidence to the contrary and my expert testimony* [the plaintiff's lawyer] *won the case and received a substantial award for his client."*

Post-Mortem takes you behind the headlines in the sensational trial of Alice Crimmins in New York, the deaths of three civil-rights workers in Mississippi, and the death of Fred Hampton, the Chicago Black Panther. Here is a pathologist whose reports on real life recall that of Sir Arthur Conan Doyle. Here is a man who calls himself a "civil-rights pathologist" but whose conscience dictates that when he steps through the door into the pathology laboratory and autopsy room he must tell it as he sees it under the microscope or on the autopsy table.

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Transfer Factor

IT WAS IN 1942 that Landsteiner and Chase, with the use of peritoneal exudates, demonstrated the cellular transfer of delayed skin hypersensitivity from sensitized to unsensitized guinea pigs. Later work showed that cells from blood, spleen, and lymph nodes were equally effective. We now know that delayed hypersensitivity is part of the complex we call cellular immunity, for which the circulating, thymus-dependent, small lymphocytes—the T lymphocytes—are responsible. Humoral immunity, the development of antibodies, resides in the B lymphocytes, which mature under the influence of the bursa of Fabricius in chickens and an unidentified equivalent in man.

Dr. H. Sherwood Lawrence (see page 12) has intensely studied the Landsteiner-Chase phenomenon. He first showed in human beings the effectiveness of viable blood leukocytes in transferring delayed skin sensitivity to tuberculin and to streptococcal antigens. He then went on to demonstrate that extracts of human leukocytes were equally effective in transferring systemic states of delayed hypersensitivity. The extracts were prepared by freezing and thawing or by osmotic lysis. He has succeeded in clearly characterizing the transfer factor (TF) as a small polypeptide-polynucleotide of less than 10,000 molecular weight.

This soluble, dialyzable, lyophilizable substance, which is not a protein, not an immunoglobulin, and not immunogenic, is immunologically specific, converting normal lymphocytes in vitro and in vivo into an antigen-responsive state so that in the presence of the antigen these converted lymphocytes proliferate into a clone of specifically reactive cells. Cellular immune deficiency diseases have been successfully treated with TF, as have such serious disseminated infections as vaccinia, mucocutaneous candidiasis, coccidiomycosis, and lepromatous leprosy.

Of enormous interest today is the use of TF in the treatment of neoplastic diseases. Encouraging results have been secured in malignant melanoma, and in this issue of MEDICAL TRIBUNE there is a report (see page 1) of Dr. H. Hugh Fudenberg's work in using TF to treat osteosarcoma.

This remarkable substance may turn out to be extraordinarily effective in therapeutic medicine. It is now upwards of 30 years since the report by Landsteiner and Chase of an obscure, immunologic phenomenon they had observed in guinea pigs. Their work was basic science in animals. Dr. Lawrence's work was basic science in human beings. Such work is the prerequisite for practical application.

Energy Crisis

THE MEANING of "Ill blows the wind that profits nobody" is that there is someone who profits from almost every disaster. And no matter what statements the oil companies make, their most recent earnings demonstrate they have amply profited from the energy crisis and from the Arab oil embargo.

Nonetheless, with the upsurge in fuel costs, it has become feasible to investigate substitutes for oil. For some time now, domestic wastes have been processed in a number of plants to yield shredded material for addition to coal-fired boilers to generate steam and power. In at least one such project, 10-25 per cent of coal fired has been replaced by waste.

A more ambitious project includes processing garbage, manure, and solid wastes into a slurry that is anaerobically digested to yield gaseous products—about half methane and half carbon dioxide. Pyrolysis of wastes at about 900° F. can yield about one barrel of oil per ton of wastes, plus gas and water. Suggestions have also been made to add ethyl alcohol—which can be readily produced—to gasoline in amounts of 5 to 30 per cent and increasing the octane number.

So the energy crisis may profit us all, ultimately, in various ecologic ways. What is to be feared is that changing from cheap energy to expensive energy will cost us dearly in such areas as education and research.

"I haven't the slightest idea how I'm doing. The younger doctors tell me to 'hang in,' and the older doctors just say 'hang on.'" ©1974 Medical Tribune

LETTERS TO THE TRIBUNE

Brevis oratio caelum penetrat

Abortion, No—1

Your front-page article (January 23) crediting legalized abortion with producing "health advances" would appear to be nothing more than a bit of self-serving, pro-abortion propaganda. All of the statistics cited (i.e., the reporting, compiling, analysis, interpretation, etc., of said statistics) must be presumed to be in the hands of liberal abortion advocates. And one could hardly expect *them* to be searching very diligently for evidence that conflicts with their prejudices. For example, here in California, liberal abortion advocates have admitted (only under pressure, of course) that some legal abortion deaths are not reported as such.

Consequently, in the absence of exhaustive and reliable corroborative evidence which could conclusively contradict the above statements, any statistics or justification such as those you've presented deserve to be greeted by any true scientist with liberal amounts of healthy skepticism.

In a similar vein, your "report" on page 35 would have done greater service to your credibility if it had been placed on the editorial page.

JAMES H. FORD, M.D.
Member
Committee for the Continuing
Study of Evolving Trends
in Society Affecting Life
California Medical Association
Lynwood, Calif.

Abortion, No—2

It was a sad day for our country and our profession when the Supreme Court ruled in favor of legalizing abortion. This was the day our great country and our profession lost respect for human life.

During this past year some 800,000 lives were brutally ended by abortion, and your staff writer Margery Barnett has the audacity to state that since this Supreme Court decision "the neonatal death rate dropped an astonishing 5 per cent below the first eight months of 1972." To me such a statement should not go unchallenged and unanswered.

There are times in medicine when one cannot completely separate medical and moral aspects of a situation. It is my opinion that there is absolutely no conflict between good morality and good medicine. When something is immoral, it almost invariably is bad medicine. Abortion is such an issue. I feel that our profession is playing a prominent role in the moral decline of our country.

I hope that the lessons we in this country must learn will not be too bitter before we change our attitude toward abortion.

JOSEPH W. KOLP, M.D.
Canton, Ohio

Editor's note: Our reporter's "audacity" was derived from the National Center for Health Statistics. They of the center drew the graph, not she.

Abortion, Yes

Your recent front-page article on abortion leaves me utterly confused and depressed. It is inconceivable to me how these vociferous antiabortion forces intend society to deal with the most significant problem of all mankind—*overpopulation.*

What does our society need with the 400,000 (potential) human beings that Dr. Michael F. Dolan (February 6, page 13) says have been "killed" in New York City alone between 1970 and 1972?

We are *finally* having to face the rather stark reality that our finite earth cannot supply the energy, the natural resources, to sustain unlimited population. When and if ignorance and apathy prevail and/or contraceptive measures fail, it seems to me that abortion must become more essential every day.

I feel that abortion should be made mandatory in certain instances, and that previously assumed inalienable right to bear children must be challenged when it conflicts with the best interests of society. If there is to be any kind of a meaningful future for

Continued on page 29

Severe Pain of MS Is Eased By Dorsal Column Stimulator

Continued from page 1

marked increase in the frequency and amplitude of reaction in the muscles of her legs.

Before DCS, she had intention tremor, dysmetria, and dysdiadochokinesis in both arms. "It was hard for her to sit up in bed and she had a tendency to fall when standing," Dr. Cook said. "After DCS, ataxia disappeared." He also observed that such indications of brain-stem disturbances as moderate dysarthria, scanning speech, and deep, rasping voice also disappeared. Finally, a number of parameters of sensory dysfunction also returned to normal with DCS, except for plantar hyperalgesia, which persisted.

Used in Several Institutions

DCS is being used at several U.S. institutions as a nondestructive surgical method of treating severe, intractable pain. Dr. Charles Burton, Associate Professor of Neurosurgery, Temple University Health Sciences Center, Philadelphia, who has been working with electrical stimulation of nervous tissue—or neuromodulation—for pain reduction, told MEDICAL TRIBUNE: "To my knowledge, Dr. Cook is the first person to have used DCS for multiple sclerosis. If he continues to achieve consistent improvement in MS patients, it could have very important implications, not only for MS but for the whole new area of neuromodulation in living systems."

Originally, Dr. Cook implanted four platinum electronic contacts in the subdural, extra-arachnoid space over the center of the upper thoracic spinal cord. A radiofrequency current energizes the bipolar electrodes, and an external transmitter delivers the current to a subcutaneous radio receiver. The voltage and frequency of a miniaturized, battery-powered transmitter are regulated by the patient, according to functional response. In his later implantations, Dr. Cook has placed the DCS within the layers of the dura to avoid heavy scar tissue formation.

Stimulation Begins in 10 Days

About 10 days after implantation, stimulation begins, along with appropriate physical therapy. Results are evaluated by neurologic examination, electromyography, cystometrograms, thermography, and before-and-after motion-picture studies.

The New York neurosurgeon tests MS candidates for implantation by their response to percutaneous electrical stimulation. If there is no response, the likelihood is that there will be no response to permanent DCS.

"If there is movement or some residual function in the legs, it indicates that some nervous tissue is left alive. The hope is that there may also be intact neural structure that can be brought up to the impulse propagation level to overcome the conduction defect. We must see paresthesias in the legs. We've seen patients who are not paralyzed and seem to have good function, but if we can't induce paresthesias, they probably won't be helped by implantation. We also look for an increase in lower-leg temperature, activation of the electromyogram in both lower and upper extremities, and some increased movement ability. If percutaneous stimulation does not accomplish at least that much, then we can be pretty sure that DCS won't do anything."

Dr. Cook said that he would not implant a DCS in a very young patient who has a chance of total remission—or in the very old with far advanced disease, because stimulation has little effect on severe MS in the aged. Generally, he feels that "the more severe the disease, the less effect we can expect from DCS. If the nerve tissue is already functionally dead, stimulation will not activate propagation of impulses."

For diagnosis and determination of disease stage, Dr. Cook uses the Kurtzke scale: grade 1 is an absence of disability; grade 9 is total disability. "If we have a patient at grade 7, we may be able to improve function to grade 5 with a DCS, but the disease progresses in its usual manner; with stimulation he may deteriorate to grade 6, but when we turn the stimulator off, he goes down to grade 9. In other words, DCS can hold the functional disability below the expected disability."

Now in Her Third Year

DCS pulled Mrs. R.—a grade 7 patient—to functional grade 5. She is now in her third year of stimulation and has had the expected progression of MS. Even with DCS, she is now at a lower level of function than three years ago; but when stimulation is withdrawn she declines even further and becomes completely bedridden.

Dr. Cook cited a grade 9 patient, paralyzed and bedridden and completely unable to care for herself. She had severe ataxia and violent static and kinetic tremor. Arms flailing, she had beaten herself black and blue. Her speech could not be understood.

"With DCS, she is quiet while resting, and without the violent flailing. She has a reduced amount of kinetic tremor; she can get food to her mouth, use the telephone, and speak intelligibly. Although she can't really care for herself, she has come back to some interrelationship with the world."

A major problem with DCS for MS, he pointed out, "is that the frequency and amplitude of stimulation is so delicate that we spend a great deal of time on the telephone each day adjusting the stimulator levels for our patients; these levels may vary, in some cases, from day to day."

Dr. Cook has extended his work with DCS to such motor neuron diseases as amyotrophic lateral sclerosis. In one patient "there was an astonishing level of increased functional capacity."

Similar Improvements Seen

In other patients with similar problems, similar improvements have been seen, but much depends on the functional state of the anterior horn cells.

"This has significant impact when one realizes that nobody has ever been able to do anything for motor neuron diseases with progressive muscle atrophy."

He is also considering DCS implantation for severe paresis caused by traumatic spinal cord injury. "Based on testing with percutaneous electrical nerve stimulation in a patient with severe spinal cord dysfunction as a result of a skiing accident, we feel there may be some beneficial effect. It's worth a try."

Baboons Raise Own Blood Pressure, Heart Rate

Photo Courtesy the Baltimore Sunpapers

Tests with eight baboons showed that they were able to raise their blood pressure and heart rate in response to food or electric shock, Dr. Alan Harris, of Johns Hopkins University, recently told an American Heart Association Seminar.

Real Work on Transfer Factor 'Just Begun'

Medical Tribune Report

NEW YORK—The New York University immunologist who discovered transfer factor nearly two decades ago summed up here the now-extensive evidence of its potency "as a restorative of cellular immunity" and received the kind of applause rarely heard at scientific meetings.

But Dr. H. Sherwood Lawrence also emphasized in discussions at the ninth Gustav Stern Symposium on Perspectives in Virology that there are still major gaps in knowledge about transfer factor.

No one is yet sure what it is or how it does what it does, he said. "The real work on transfer factor has just begun."

Dr. Lawrence defines the substance as a small nonantigenic moiety (molecular weight less than 10,000) that is separated from other macromolecules in human blood leukocytes by dialysis and concentrated by lyophilization of the dialysate. The safety margin is high, and comparatively large doses produce no significant side effects.

Studies have demonstrated that dialyzable transfer factor possesses all of the immunologic properties of the viable leukocytes from which it is prepared, he reported. It confers on the recipient for one to two years the delayed hypersensitivity responses and the cellular immunities possessed by the donor—or, in another descriptive phrase used by Dr. Lawrence, "memories of experience are conferred on the recipient."

Dr. Lawrence believes that transfer factor induces a new clone of T cells in the recipient. These antigen-responsive lymphocytes will then, by a mechanism still not understood, express all of the immunologic capacities of the naturally sensitive cell when they are exposed to the appropriate antigen.

Discussing transfer therapy of congenital and acquired cellular immune deficiency disease, Dr. Lawrence said that encouraging results are being achieved in the treatment of Wiskott-Aldrich syndrome, Swiss-type agammaglobulinemia, dysgammaglobulinemia, and some cases of disseminated infection, such as disseminated vaccinia, mucocutaneous candidiasis, coccidioidomycosis, and lepromatous leprosy.

Waste-Water Reuse Is Said to Pose Health Risk From Disease Organisms

Medical Tribune World Service

GENEVA, SWITZERLAND—The lower Rhine, water source for nearly 6,000,000 persons, often contains 40 per cent sewage and at low flow close to 100 per cent. Water from the Thames, which supplies two-thirds of Greater London, is contaminated with about 14 per cent sewage on average. In times of drought the only available water for the town of Agra, India, consists almost entirely of partially treated sewage from New Delhi.

These are some of the facts cited in a World Health Organization publication on methods of waste-water treatment and reuse. As the report noted, the use of sewage-polluted water for domestic purposes poses a serious health risk since such water contains all the disease organisms found in the source community.

The hazards of water pollution are magnified in industrial areas, where each year new organic chemicals find their way into rivers and lakes.

This Question of COPING

Anxiety and Coping Behavior

Fourth in a series which includes such topics as:
Competent Coping; Development of Coping Behavior;
Coping with the Changes of Adolescence; Coping with Cancer;
and *Coping with Cardiovascular Disease.*

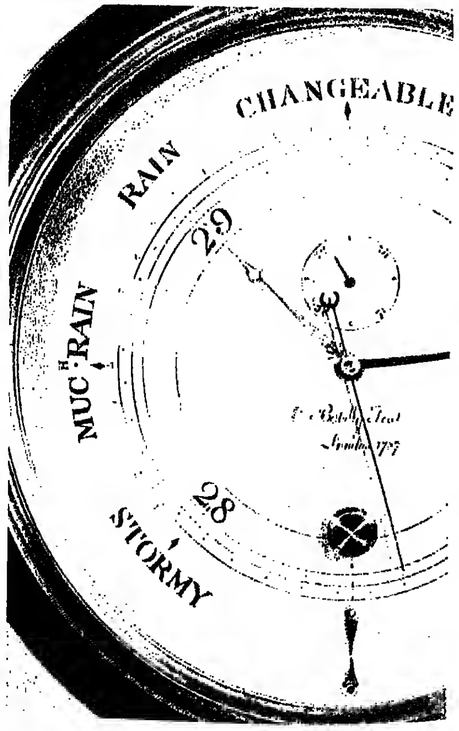
Anxiety–painful and unpleasant as it is– is a universal experience. How each person copes with it is a measure of that individual's mental health.

As a response to stress,[1] anxiety is a key ingredient in the coping process: it alerts a person to impending danger and maintains all the potential resources of the body and mind in readiness for emergencies. This normal alerting and facilitating anxiety puts us on guard against present and future disturbances so that we will not be overwhelmed by sudden excessive stimulations, or helpless in sudden critical situations.

Coping with anxiety is much like reading a barometer: there is very little we can do about changing the weather, but we can prudently observe the warning signals and protect ourselves from its extremes. On the other hand, we can ignore all warnings and attempt to ride out the storm—perhaps getting tossed or literally "wiped out."

How each person reacts to anxiety is as different as how each person perceives it. Fifty normal men and women were asked to relate how they felt about anxiety.[2] Their answers ranged broadly: "There is a sense of uncertainty about the future," "I have no appetite," "I try to stop thinking of the situation and try to think of other things," "There's a tension across my back," "I have a gnawing feeling in the pit of my stomach." No matter how anxiety is defined, each of us has two alternatives: to cope with anxiety and accept it as a signal—"I am feeling anxious now"; or to become overwhelmed and helpless in the face of mass stimulation—"I always feel anxious."

It is not the capacity to experience anxiety but what we get anxious about that determines whether or not anxiety is "normal." Furthermore, anxiety as perceived is relative in intensity, depending on how each of us has been shaped to adapt to stresses of life in the past—what has gone on, how we have reacted. In essence, anxiety is the consequence of each individual's peculiarly personal perceptions of the environment and of each person's internalized psychologic processes.



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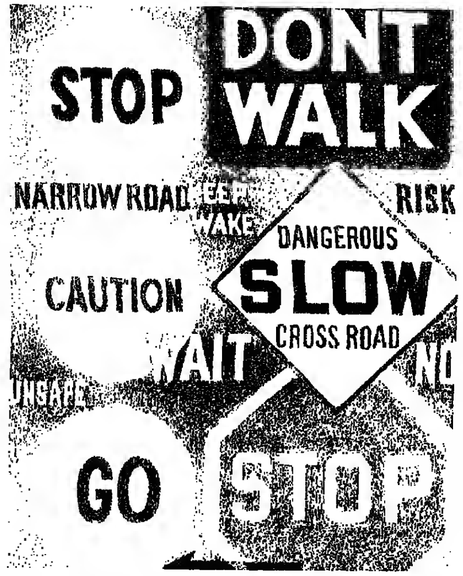
Anxiety in everyday life. The sources of anxiety–both internal and external–are increasing in our society, which for more than 25 years has been dubbed "The Age of Anxiety."

A common internal source develops when a person is confronted with two or more attitudes or drives which seem to be in opposition to each other, and between which easy choice seems impossible.[3] Another internal source of anxiety stems from feeling incapable of living up to the ideals set in early childhood by parents; still another, from anticipating that our actions will be opposed by someone personally significant. Basically, these are conflicts between internalized instructions and current motivations. They result in a nameless dread and foreboding, so characteristic of anxiety.

It is in our daily routine that we commonly find external sources of anxiety.[4] Examinations and other tests are a frequent focus of anxiety in young people who are particularly exposed to them—but rarely does the anxiety become so intense as to disrupt performance. Anxiety about dental treatment is widespread but short-lived, dropping off sharply after treatment. Stage fright too is a source of anxiety, occurring not only among actors but also in anybody who has to perform some action in public, at school or at work. Even experienced politicians confess to nervousness before making important public speeches—a nervousness which usually makes them more alert, goading them on to perform better.

These external sources of anxiety can be very useful; often without them we could not cope with the rapid changes in our everyday lives. We could not, for example, do something as relatively simple as crossing the street safely without being apprehensive and alert to the possible dangers of oncoming cars. Or, take a more stressful situation: in a group of serial combatmen surveyed, 50% reported that mild fear had a beneficial effect on their performance, and as much as 37% thought they performed their duties better even though they were very anxious.[4]

Yet, the difference between being anxious and too anxious is a thin line: while many in the anxious group performed better, too much anxiety in trainees and even in trained paratroopers was correlated with poor performance. Among the many normal situations in life—a promotion at work which means more pressure to perform well, the birth of a child which means new responsibilities—some events can raise the anxiety of an already anxious person beyond the point of tolerance. This is when anxiety can jeopardize the coping process.



Studies show that anxiety follows a course parallel to that of societal pressures which are imposed on individuals in an age-linked sequence.[5] Anxiety is seen early in infancy: there has been speculation that its precursors may first occur during the events of birth—which impose severe and difficult stimulations on the infant. Infants early develop the startle response—catching their breath, clutching with their hands, closing their eyes, puckering their lips and then crying—their way of coping with danger and anxiety.[6] This startle response is pre-emotional, but protective.[7] It is

This Question of COPING

the precursor of emotional reactions which become anxiety and fear. (Adults, too, have startle reactions: a pistol shot goes off unexpectedly, the body contracts, heart jerks forward, eyes blink, shoulders draw forward. As in a reflex, we startle before we know what threatens us.)

Childhood anxieties are commonplace: in a group of 482 children, 40% reported that they had seven or more specific fears.[8] Yet children learn very early in life that reduction of anxieties is accomplished very largely by the people who take care of them. Even the infant learns to respond to absence or inattention on the part of these people as signs of danger, while their presence or attention takes on the power to reduce anxiety. A child's behavior is shaped at least in some degree to meet parental and cultural expectations; in turn, meeting these expectations gives the child a sense of security and reduces anxieties.

Proneness to anxiety is based on a person's preceding experiences. What may be a harmless situation for one can be a highly anxious one for another because of the complex ways in which, according to past experiences, the individual interprets the situation or transfers past emotions to it. A minor argument during a bridge game, for instance, may set off profound anxiety in one player because any suggestion of competition triggers associations connected with early competition with his sisters—a situation which was a great threat to his close dependency on his mother. The other bridge players would probably resolve the game-related conflict and resume playing, without anxiety.

No matter what the source of the anxiety, each of us has a particular way of feeling anxious—a way which is specific to the individual.[9] For some it is a lump in the throat, for others it is a headache, a sinking abdominal sensation, "butterflies in the stomach."

There are two basic kinds of physiological manifestations of anxiety:[10] those which a person can perceive, and those which the person cannot.

At the conscious level, the reactions most commonly perceived are shortness of breath and rapid beating of the heart. There is also a dryness of the mouth, tightness in the throat, loss of appetite, insomnia.

Other responses to anxiety, not subjectively perceptible, are brought about through the action of the autonomic nervous system. This is nature's way of enabling the body to mobilize itself to deal more effectively with threatened danger, either by fleeing from it or by fighting against it. Every system of the body is involved to some degree in this emergency mobilization. Some of the most outstanding of these responses are the outpouring of adrenal hormones, which in turn cause the liver to release glucose into the bloodstream so that the muscles will then have the glucose available for quick energy. The heart beats faster and blood pressure rises, thus pumping the blood with its oxygen, glucose and other nutrient supplies more quickly to the muscles and to the nervous system. At the same time, processes in the body that are not immediately useful for fight or flight—such as digestion or sexual desire—are likely to be slowed or inhibited. These reactions are not subject to conscious control; they happen automatically in anxiety states.

Another set of chronic physiological reactions set off by anxiety falls into the psychosomatic category: anxiety can provoke cardiovascular responses such as palpitations, can produce partial deafness (to drown out the world), chronic headaches and a whole host of ailments. Often these manifestations are called upon to replace unsuccessful psychological maneuvers.[11] Whether these physiological responses are part of the normal fight or flight preparedness or psychosomatically induced, research has clearly shown that each step down the ladder of self-esteem produces a larger proportion of physiological symptoms.[12]

The role of self-esteem. There is an obvious and inverse relation between the sense of competence and anxiety.

Stressful situations can be dealt with when they do not need to be feared; they cannot be handled competently through hesitant approaches, avoidance, feelings of awkward helplessness and lack of self-respect, all evidence of failure to deal with anxiety.[13] Maintaining and, if possible, enhancing our level of self-esteem is an essential element of competent coping.

By moving through anxiety-creating experiences, we achieve more self-awareness and individual freedom. The developing

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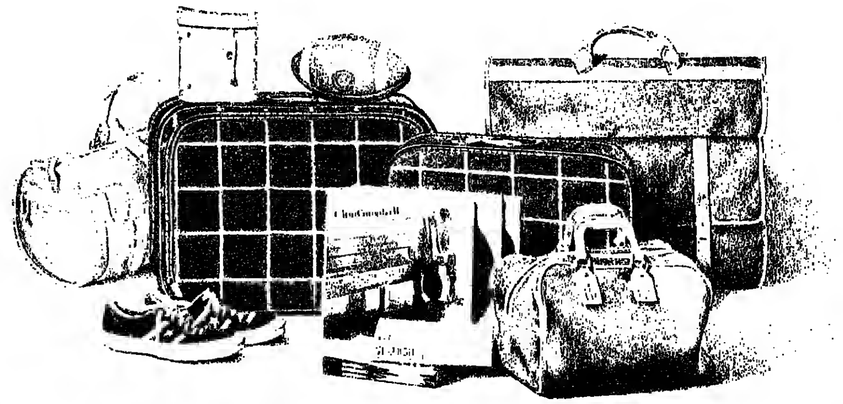


child, for example, experiences a progressive need to break the primary ties of dependence on parents—a break which always involves some anxiety. The healthy child overcomes this anxiety by a larger degree of self-direction and autonomy. But if independence from parents brings about an insupportable degree of anxiety—if the price of increased feelings of helplessness and isolation is too great—the child retreats into new forms of dependency. Anxiety, then, can constructively help raise the level of self-esteem, or it can destructively lead to self-derogation and a constriction of self.

It has long been believed that anxiety generates low self-esteem: it sets in motion a complex chain of psychological events which produces among other consequences self-hatred and self-contempt—neither of which fosters competent coping behavior. **Researchers now report that the opposite sequence may also occur: low self-esteem may generate anxiety.**[14] The association between anxiety and self-esteem was investigated in more than 5000 high school juniors and seniors in a random sample of 10 high schools in New York State. It was found that the low self-esteem persons had a shifting and unstable self-picture, and that they presented a false picture of themselves to the world. This is a very anxiety-producing situation: a person is always under the strain and fear of letting the guise slip. The low self-esteem group tended to be very sensitive to criticism, which they viewed as a threat testifying to their inadequacy, incompetence or worthlessness. Conversely, the high self-esteem highschoolers had fewer anxiety symptoms: they had stable and good self-images, they presented their true selves to the world and they felt less threatened by criticism.

The association between self-esteem and anxiety becomes cyclical: chronically anxious persons generally expect bad events to occur in situations involving potential threats to self-esteem. The extent to which a situation becomes threatening to self-esteem depends on our individual conceptions of our resources for mitigating or preventing harm—how much power we have over the threat—as opposed to helplessness in face of it.

An optimal range of anxiety. To facilitate action, we need to have a certain degree of anxiety.

Just how much anxiety we require varies with each of us, depending on our constitutional make-up, on our early environmental background, and on how we have learned to cope. What happens is that as anxiety increases responses are intensified to reduce that anxiety; but a point is eventually reached beyond which further increases in anxiety are associated with decreases in the anxiety-reducing responses. This is represented by the classic inverted U-shaped curve which relates drive (anxiety) to performance: for each task there is an anxiety level, both above and below which performance falls off.[15] For easy tasks, the optimum level is generally high; for difficult tasks it is low. However, we may be so anxious that we can only perform tasks which are very easy.

At the optimum level of anxiety for each individual, there is increased vigilance, increased sensitization to outside events and increased ability to cope with danger; this sensitivity continues at higher levels of anxiety, but the ability to differentiate the dangerous from the trivial becomes reduced. Also as anxiety mounts, we become less capable of mastering it: our behavior loses its spontaneity and flexibility, there is a general rigidification, and we respond in terms of the more habitual and hence safer tendencies. Anything novel is threatening and the ability to improvise is reduced: coping behavior is stymied.

This Question of COPING

Many aspects of anxiety can aid in the development of competent coping behavior.

Anxiety as a warning system.

What the normal or the "right" amount of anxiety does is make us aware of threats: it is an expression of self-preservation, a real and valid reaction to real danger. It is this alertness, this apprehension that keeps us keyed up psychologically. Without this our performance is often less efficient.[16] In the vernacular of the theater, we may "lay an egg." Indeed, psychoanalytic theory considers one type of anxiety to be "signal" anxiety because it functions as a warning, encouraging tentative preparation for mobilization of defenses against the breakthrough of overpowering, unacceptable or conflicting impulses. This signal anxiety is related to ego strength in that psychological conditioning in early life prepares us for adequate coping with a changing environment.

There are many aspects of anxiety that can aid in the development of competent coping behavior. Anxiety is adaptive, for example, in that it helps us cope by narrowing and focusing our field of attention, heightening our responsiveness to significant cues, reducing our responsiveness to more incidental cues.[17] Almost every step of growth and independence contains the seed of anxiety. Consider the classic case of going away to college. One such college-bound 18-year-old who was interviewed was obviously very anxious.[18] This was the first time she had ever been away from her family. As she spoke of leaving home, she revealed both her feelings of anxiety and her determination to become independent. She described how she had always been overprotected by her mother and three older brothers and said that, although it was hard for her to do it, she had decided it would be best for her to go to college in a distant city. She would have been relatively free of anxiety had she decided to remain at home; but she was not going to let a little anxiety stop her from developing into an independent young woman. Others, afraid of the anxiety of separation, might have remained at home, psychologically tied to mother and hearth forever.

Anxiety can also produce emotional inoculation—so called because it is somewhat analogous to what happens when antibodies are induced by exposure to mildly infectious viruses. Exposing a person to mild anxiety situations enables "normals" to increase tolerance for stress by developing coping mechanisms and effective defenses. Take the case of a group of 26 women smokers who were exposed to alarming information about the dangers of smoking.[19] In a psychodrama situation, an investigator played the role of a physician; each subject played a part of a patient suffering from the consequences of smoking. In one instance, the physician pointed out the x-ray indications of a malignant mass in the patient's lung, as he gave her the bad news that diagnostic tests indicated the presence of lung cancer. A controlled group was exposed to the same information, but instead of participating in the role playing, they listened to a tape recording of the session. In a follow-up study 18 months later, the psychodrama "patients" reported a significantly greater decrease in the number of cigarettes smoked than did the young women in the control group. Concludes the researcher: Under appropriate conditions, an anxiety experience may develop into a more adaptive attitude—an attitude that combines vigilance with high receptivity to precautionary recommendations.

Anxiety as a detriment. When signal anxiety fails to stimulate coping behavior, the overwhelming intensity of anxiety drives cannot be checked. This, according to psychoanalytic theory, results in or is described as traumatic anxiety,[16] or neurotic anxiety.[20]

Essentially, this kind of anxiety is a reaction to a threat which is disproportionate to the objective danger; it is managed by means of various repressions, defenses and retrenchment of activity and awareness.

Traumatic or neurotic anxiety occurs when the incapacity for coping adequately with threats is not objective, but subjective—that is, is due not to objective weakness but to inner psychological patterns and conflicts which prevent the individual from using powers to cope.[21] These patterns are derived in part from situations of early childhood, when the child was not able objectively to meet the problems of a threatening situation, and at the same time could not consciously admit the source of the threat. Take the hypothetical case of a child on his first day of school. Billy, a 6-year-old kindergartener, has trepidations and conflicts about going to school. While he is eager for the new experience, he is also reluctant to leave his mother, or to free her to devote more attention to his baby brother. He expresses his anxiety through a mild sense of nausea, abdominal discomfort and a generally queasy feeling. He vomits in school, is sent to the nurse who comforts him. His mother is called to school; she too comforts and reassures him, gives him a new toy, ice cream and special attention. Billy has learned a way of dealing with his anxiety. If he repeats this expression of anxiety in a way that permits him to avoid school or other activities beyond the family, he creates a serious problem for his life-long style of dealing with anxieties: he establishes a pattern of getting sick as a way out of an intolerable anxiety-producing conflict.

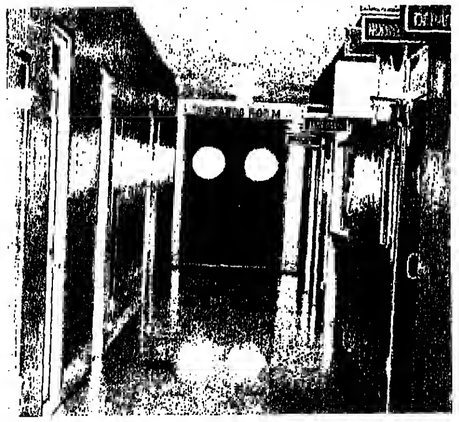
Anxiety can also play a negative role in coping behavior when it interferes with thought processes. Some common complaints of anxiousness include: "I find it hard to keep my mind on a single task or job"; "I feel anxious about something or someone all of the time"; "At times I have been worried beyond reason about something that really did not matter." These statements all reflect intellectual and emotional preoccupation, an interference with concentration—and roadblocks to effective problem-solving.[21] When we are subjected to deep anxiety, we may begin to doubt our ability to perform even the most simple function. For example, two groups, in psychological testing, were asked to judge the length of certain lines.[22] The actual discrimination required was not difficult. However, the high-anxiety group showed many more doubtful judgments on lengths of lines, tending to be somewhat more hesitant and not trusting their own visual ability. In contrast, the non-anxious group scored significantly fewer doubtful responses.

High anxiety levels tend to impair academic achievement. In a test anxiety (TA) questionnaire administered to 305 Yale University liberal arts undergraduates, it was found that high aptitude students did well no matter what their anxiety levels were, and that low aptitude students, predictably, did poorly.[23] For the large middle intelligence group, academic achievement was impaired by high anxiety. The higher the anxiety score, the worse the student's performance. However, this effect tended to diminish the longer the student remained at Yale, suggesting that the student had learned to cope better with examinations generally.

Adaptation and maladaptation to anxiety situations. Too little as well as too much anxiety can hinder effective action, while a moderate amount of anxiety can foster competent coping behavior. Given the very same anxiety-producing situation, one person may cope competently while another may collapse.

Here are a few cases in which similar stress situations produced vastly different coping responses.

Surgical patients. A group of hospitalized men and women from the surgical floor were interviewed before and after their operations, to evaluate the impact of anxiety on surgical experiences.[24] Researchers found that the patients with low anticipatory anxiety—those who displayed no perceptible signs of fear or



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emotional disturbance during the period when they knew that they were scheduled to have an operation—often reacted with angry resentment combined with varying degrees of anxiety and depression postoperatively. Mr. R., a 33-year-old mechanic, hospitalized for a colostomy, asserted that he felt no concern about any aspect of his impending surgery. "I don't worry about it—I don't think about it at all. I figure it's not a serious operation." Following his operation, he displayed characteristic resentment. He had expected that after the operation he would have no pain at all, but to his dismay waking from the anesthetic was unexpectedly a disturbing and somewhat painful experience. His denial of the situation had tended to convince him that he would remain wholly unaffected by the surgical experience; instead, he was rudely subjected to the real pains and other stresses of the postoperative period.

Patients highly anxious preoperatively—those who report feeling continuously jittery and nervous about the impending operation, who have difficulty sleeping, difficulty concentrating on normal activities—continue to display a relatively high level of anxiety postoperatively. Mr. L., a 43-year-old salesman, was extremely fearful and agitated while in the hospital awaiting his abdominal operation, a cholecystectomy. Earlier, against the advice of his physician, he had postponed coming to the hospital. Throughout the entire convalescent period he felt continually worried about his physical condition and he displayed an unusually low ability to tolerate pain or discomfort. Like others with high fears before operations, he felt generally apprehensive, lacked confidence about recovering fully, and had adopted an attitude of resignation.

Now let us look at patients who showed only a moderate amount of anticipatory anxiety—those who had minor symptoms of emotional tension but who did not display outbursts of acute panic-like apprehensiveness. They were more like part-time worriers, occasionally preoccupied with fretful forebodings but quite capable of suppressing disquieting thoughts about the dire crisis that might be in store for them. Although those in the moderate fear group had as much postoperative pain as those in the other two groups, they showed a relative absence of emotional disturbances throughout the entire recovery period. Before an esophageal diverticulectomy, Mrs. R., a 62-year-old woman, verbalized numerous apprehensions about her health and the impending operation. The operation was needed, she said, to avoid "living a life of physical agony." And then there was the "mental agony from knowing it won't get better but might get worse if I don't have the operation." Postoperatively, Mrs. R. was highly cooperative in conforming to hospital routines, and while convalescing she kept saying how fortunate she was to have "doctors that are the tops." While Mrs. R. did a considerable amount of mental rehearsing of potential dangers, her rehearsal led her to a high degree of awareness of reassuring features as well as of threatening ones: "There will be pain but it won't last long." In contrast, the low-anxiety patient was angry to discover he was in pain and the high-anxiety person complained of pain constantly. Conclude the researchers: The arousal of anticipatory fear and anxiety plays a causal role in the development of psychological stamina. In general, studies of this sort have shown the usefulness of psychological preparation.

Paratroopers in training. A group of paratroopers was tested for pre- and postflight anxiety levels, to examine the role played by anxiety in performance and in the ability to perform.[5] One 19-year-old boy, subject P.D., was given an initial anxiety rating of 0. He had little capacity for communication with himself or others, partly because of his limited cultural background (he had never graduated from high school in a small Georgia town), and partly because of his distinctive personality characteristics. At first he could not recognize his anxiety, although he was scared almost every time he jumped from a plane; his performance was rated poor. On one occasion he stated that he was doubtful he could jump again. It was at this time—when he could admit his anxiety overtly—that P.D. began to improve in his paratrooper training. It seems that the psychological loosening of this very tightly defended person—although accompanied by anxiety—facilitated his

adaptation to stress: being able to discuss his concerns openly, he could reach out for advice and support from others.

Another jumper, P.K., showed a reciprocal relationship between anxiety and action in that during action his anxiety decreased. This bears out an old observation reexperienced by almost everyone: A high level of anticipatory anxiety is sharply reduced when action begins, especially if the actual stress is less than expected; as a result, during stress there is often an improved level of functioning. Thus, observed the researchers, a high level of anxiety elicited during a prestress interview may not be correctly predictive of a breakdown but rather an intensification of a danger signal.

The case of 18-year-old M.C. was characterized by his refusal to jump. The first day of training he reported that he wanted to jump but that his legs would not perform. The next day he was given another chance but was unable to accept it and quit his training, stating that his freezing was due to fear of heights. During an interview it was discovered that M.C. always tried to get into situations that would enable him to feel competent, although it seemed that these situations always produced feelings of great anxiety. He thought, for example, that his chances of getting through training were pretty good: "If a lot of these guys can make it, I think I can," he said with bravado. It was felt that his long-standing anxiety—he freely admitted having intense anxiety and his anxiety was rated higher than any other within all the groups—was worsened in the present situation. It was found that the men who failed training generally showed more stress responses on various measures. Commonly, they had not developed effective coping patterns, they had not developed a deep competence in any sphere, and they felt consistently vulnerable.

A.B. was a shy, insecure and self-conscious person who joined the airborne because an older brother had been a paratrooper. He was uncertain, easily embarrassed in relationships with others. During the base training period he remained by himself, did not buddy up with other trainees. By chance, an officer took a liking to this soldier, offered advice and praised him for efforts whenever his performance showed even small improvement. Midway during training week one, he received his first rating of "satisfactory" on a jump. At the same time, his behavior changed drastically; he became much more outgoing and began to interact with his buddies, especially through humor. For this soldier, the airborne trainings, though initially stressful, turned out to be therapeutic. Stressful experiences are difficult, but they have high potential for promoting personal growth.

Disabled young men. Two high-school boys were both in excellent health until their accidents: Basil was in a truck which overturned and he was totally paralyzed below the waist; Tony was rendered immediately a quadriplegic with only minimal gross hand function, the result of a diving accident which occurred while he was on vacation. The reactions of these teenagers to the acute anxiety of their situations and their development of new patterns of behavior were studied.[6]

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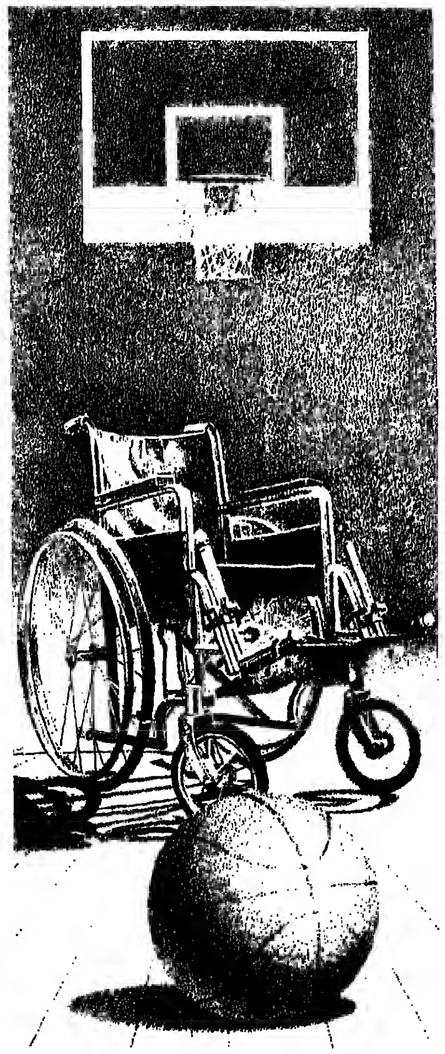
During the early part of his hospitalization, Basil expressed the firm conviction that he would walk again and initially he cooperated with the physical therapy program. His father was silent and apparently uncomprehending of his son's condition; his mother held magical expectations of his recovery. As disappointments occurred in rehabilitation therapy, Basil began to withdraw. He was no longer willing to work on rehabilitation therapy, neither was he cooperative with attempts to have a teacher work with him at the hospital. When the fall came and friends who had visited him during the summer departed for college, Basil became overtly depressed and more uncooperative. Pain without clear organic basis became almost constant and the patient spent much time in bed. After being discharged he eventually graduated from high school, had vague vocational plans but did nothing specific to pursue them. Basil apparently kept clinging to the hope that he might walk again.

Tony, a 17-year-old, was an athletic high school junior, active on the basketball team. On admission to the hospital he expressed the hope that he would walk again. His parents said they shared his hope—but despite their verbalized denial, they adjusted behaviorally to their son's condition by placing ramps in their home and widening doorways to accommodate a wheelchair. While still in the hospital Tony cooperated with rehabilitation personnel and managed to finish his junior year with the help of a visiting teacher. While he became periodically depressed over his vocational future he was able to discuss his depression with the rehabilitation staff. Initially he thought of pursuing his hobby of T.V. and radio repair, but physical limitations prevented him from performing the mechanical aspects of this work. In the hospital he became interested in history; after his release, he graduated from both high school and college. He then taught history in a high school, and fulfilled his interest in sports by coaching a local boys' club basketball team from his wheelchair.

Both Basil and Tony used defense mechanisms in the early part of their hospitalization as a highly adaptive method of buying time during the acute phase of their anxiety. But where Basil never could adapt to his disabled situation, Tony eventually managed his difficulties and coped with his anxiety. Basic to Tony's coping with his permanent disability was his awareness and acceptance that he was no longer sick—but different and limited. Only by working out a new basis for self-esteem that does not rest on physical prowess can the disabled, such as Tony, cope effectively with their affliction.

These three types of cases—surgery patients, paratroopers in training and disabled young men—show that specific coping strategies can be developed to handle major challenges of anxiety, but that excessive anxiety can jeopardize development of coping behavior.



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The basic idea behind all of the therapies available is to help each of us cope with our problems on our own initiative, and in our own way.

Relieving excessive anxiety.

Most of us try to deal with anxiety as best we can. At times we can do this with relative ease; at other times our anxiety mounts to uncomfortable proportions, until perhaps some fortuitous happening—a changed relationship, a different job, a vacation—helps ease the anxiety. At still other times, we can see no way out.

It is not the anxiety itself but the way we handle it that constitutes the difference between emotional sickness and health. Perhaps the easiest method for dealing with anxiety—but clearly not the best in the long term—is the use of defense mechanisms.[27] Avoidance of anxiety is often useful, but the price of persistent avoidance is likely to be the exclusion of new learning and the stunting of capacities to adapt to new situations. Other defenses such as laughter, compulsive working, frantic activity of any sort may serve to relieve the anxiety. But again, these maneuvers tend to be of short-term value; if sustained over many months, they may distract attention from the problem that has triggered the anxiety, obscuring it and thereby making its solution more difficult.

Instead of avoiding or repressing anxiety, a constructive way of dealing with anxiety is to confront it—to treat anxiety properly as a warning. Basically what this calls for is the use of cognitive functions, an open-minded assessment of the situation. Take the case of a young woman who was anxious about being accepted for college.[28] She had applied to several colleges, and much to her amazement was accepted by both "top" choices on the same day. Initially she was quite elated but soon she became extremely anxious as she faced the problem of making the choice between these two colleges. Within a few days, she grew almost obsessed by her dilemma and had difficulty sleeping and eating. She spoke with a counselor, pleading for someone to tell her which school to go to. Finally she recognized that no one but herself could make this choice. She decided to visit both schools and then make a direct personal evaluation. She spent time at both schools, visited the facilities, talked with some of the students and faculty. As a result of this expedition, she no longer judged the two colleges equal in relation to her interests, and she was easily able to choose one of them in preference to the other. As soon as she made this reality-based decision, she experienced a marked reduction in her anxiety.

Although there is some controversy over how we become repressors of anxiety—using a variety of avoidance mechanisms or sensitizers, approaching the threat and attempting to overcome it—some psychologists suggest that we are capable of both types of behavior.[29] Sensitizing behavior will occur when we face an anxiety-provoking situation which we feel able to handle. But if we face an anxiety-provoking situation which we feel to be overwhelming, then we may repress or distort the threat in some way so that it seems less severe. A student may not have any problems writing a three-page paper. The same student may have great anxieties and accordingly avoid work on a long, difficult term paper.

There are many forms of therapy for dealing with anxiety, ranging from long-term psychoanalysis to shorter-term therapies. In part, what these therapies do is give a person an opportunity to vent feelings. As deep feelings are expressed, often there is a relief of anxiety symptoms. Pharmacological therapy is also useful in some cases to lessen the level of anxiety to the point where a person can begin coping. While psychotropic drugs can facilitate communication with anxious persons, drug therapy is not directed at the problems of living that have triggered the anxiety. Accordingly, it should be used in cases of relatively intense anxiety as a temporary measure—a holding operation—to help the person get his or her coping responses underway.[30]

The basic idea behind all of the therapies available is to help each of us cope with our problems on our own initiative, and in our own way. Often this means helping us restore previous coping patterns that have been temporarily disrupted; sometimes it means helping us work out new patterns for dealing with problems unprecedented in our previous experience.

Anxiety is a difficult and distressing experience. But it is also a special opportunity for new learning and personal development.

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Roche Laboratories is privileged to acknowledge David A. Hamburg, M.D., as over-all consultant to this series.

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Roche Laboratories is privileged to acknowledge Roy R. Grinker, Sr., M.D., as consultant to this particular issue.

Chairman of the Department of Psychiatry and Director of the Institute for Psychosomatic and Psychiatric Research and Training at the Michael Reese Hospital and Medical Center, and Professor of Psychiatry at the Pritzker Medical School of the University of Chicago. Dr. Grinker has written some 240 papers and 15 books, including "Psychosomatic Research," "The Phenomena of Depressions," "The Borderline Syndrome" and, with Dr. John P. Spiegel, "Men Under Stress," dealing with coping under war conditions. He is now engaged in an intensive and extensive research program on schizophrenia.

. . . a grid against which the primary physician can assess the adaptive strengths and weaknesses of his patients. In the light of this appraisal and against the highly varied backdrop of what constitutes competent coping and how it may develop and mature, he can then suggest and monitor relevant pathways for constructive change and action.

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Doctor's Debate Cont'd

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neurological surgery and something approaching 1,500 lumbar disks operated leads me to the conclusion that early writers on the lumbar disk problem, such as Spurling, Semmes, and many others, are still correct in their emphasis on clinical diagnosis of surgical disk patients and the unreliability of myelograpby. I find that all too many of the younger neurosurgeons and most orthopedic surgeons who do disk surgery seem to feel that myelography is how one finds out "if the patient has a disk." This approach inevitably leads to operations on patients who don't have a herniated disk or are otherwise poor candidates for surgery. There are also other problems which must be recognized and appropriate management selected if the best results are to be achieved.

At least 90 per cent of my patients return to their former occupation without material residual symptoms. I find little difference in the compensable and noncompensable patients except in the degree to which the compensable patients emphasize their minor residual complaints. This correlates with studies done by Hamby and others years ago.

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Metapsychiatry and Noah Webster

The communication concerning "metapsychiatry" by Dr. Stanley R. Dean which appeared in the December 12, 1973, issue of MEDICAL TRIBUNE merits a response.

The statement was made therein that the term "metapsychiatry" was used to "designate the interface between psychiatry and mysticism." Later in the communication it appears that the word "mysticism" was used to encompass various aspects of the occult and of the psi phenomena. In the matter of semantics, it is important to define "mysticism."

In Webster's Third International Dictionary the word "mysticism" is defined as follows: "1. The experience of mystical union or direct communion with reality reported by mystics 2. a theory of mystical knowledge: the doctrine or belief that direct knowledge of God, of spiritual truth, of ultimate reality, or comparable matters is attainable through immediate intuition, insight, or illumination and in a way differing from ordinary sense perception or ratiocination 3. vague speculation; any theory postulating or based on the possibility of direct and intuitive acquisition of ineffable knowledge or power."

The use of the psi phenomena by the physician has long been considered to be outside the pale of medical ethics for the reason that the practicing physician is admonished in the Code of Ethics to practice his profession in a scientific manner. For the physician to do otherwise would be construed by the pontiffs of medicine to be in the nature of quackery. As a result, the field of the psi phenomena has been left largely to various exploiters, who have not hesitated to use it to their personal advantage.

I am very convinced that there are many physicians who are quite adept in the use of psi phenomena but who are very reluctant to admit to this fact. At the present time the psi phenomena are considered to be metaphysical, rather than being scientific, in nature. But it has become apparent to the writer that it is very difficult to draw the line between the utilization of the psi phenomena in making diagnoses which would tend to increase the diagnostic acumen of the clinician to the point where subliminal inputs are processed very rapidly and often without conscious awareness concerning the process.

The physician is supposed to treat the mind and the body that are diseased, but how may it be possible to define the word "mind" in any way that would be other than by a metaphysical concept? Or for that matter, where is the psyche; what are its physical characteristics; and what is the nature of its physiology?

It is not the intention of the undersigned to be negativistic in the matter of the possibility of the acceptance of the psi phenomena by the ecclesiasts of the medical profession, but one should not fly in the face of four decades of one's experience by acting in the manner of the schizophrenic person by making the assumption that these self-appointed guardians of medical orthodoxy would not demand ample documentation by means of laboratory tests and by other means of scientific proofs in order for any physician to be able to escape the opprobrium of such persons, who would not hesitate to apply sanctions against the proponents of such heresy. It would appear that there are such individuals who appear to have forgotten the Velikovsky Heresy, which has not yet been resolved.

Would the insurance companies be willing to accept such proponents of a medical heresy as being good risks in the matter of malpractice? What physician would care to defend himself in a court of law on the basis of his ability in matters that concern the psi phenomena?

It would appear that at this moment the climate is not right for the promulgation of metapsychiatry as an accepted modality for diagnosis or for therapy in psychiatry.

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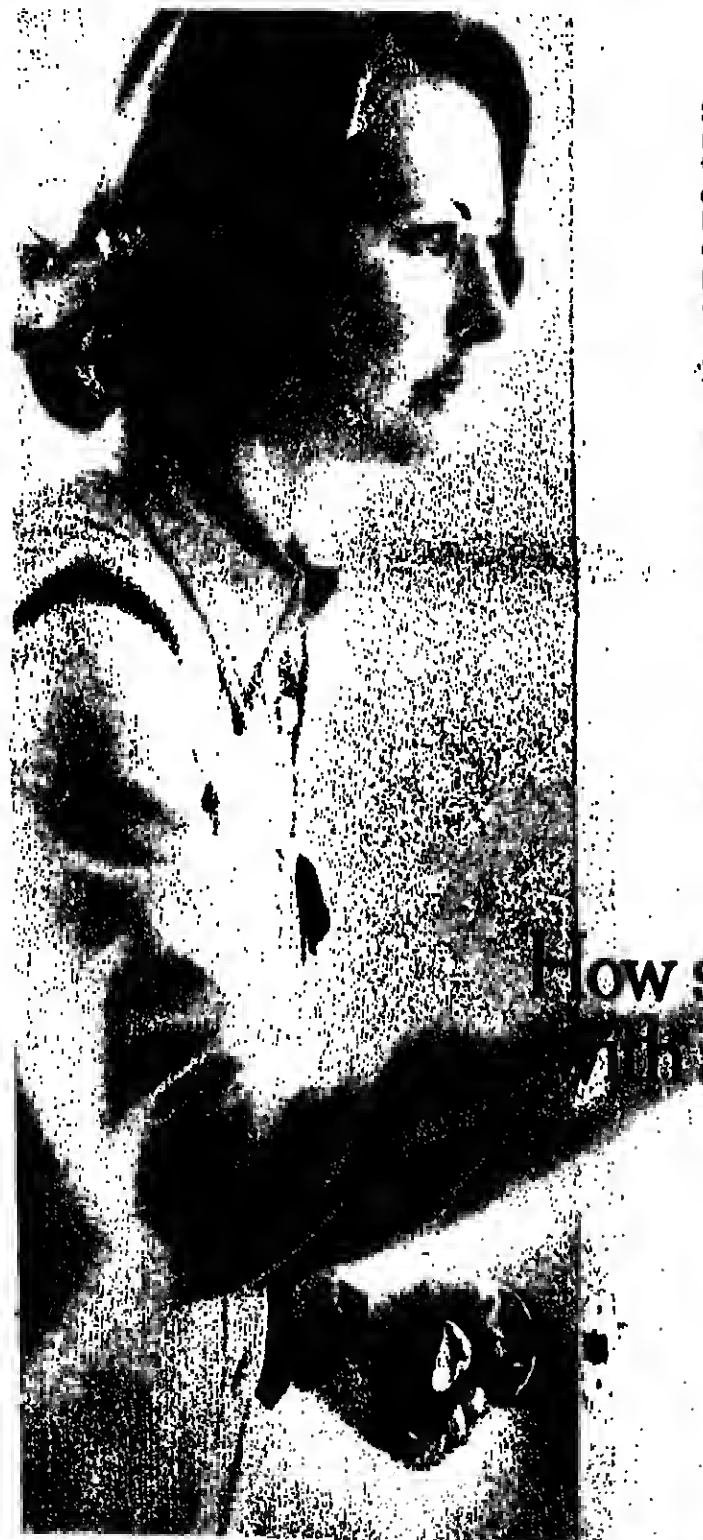
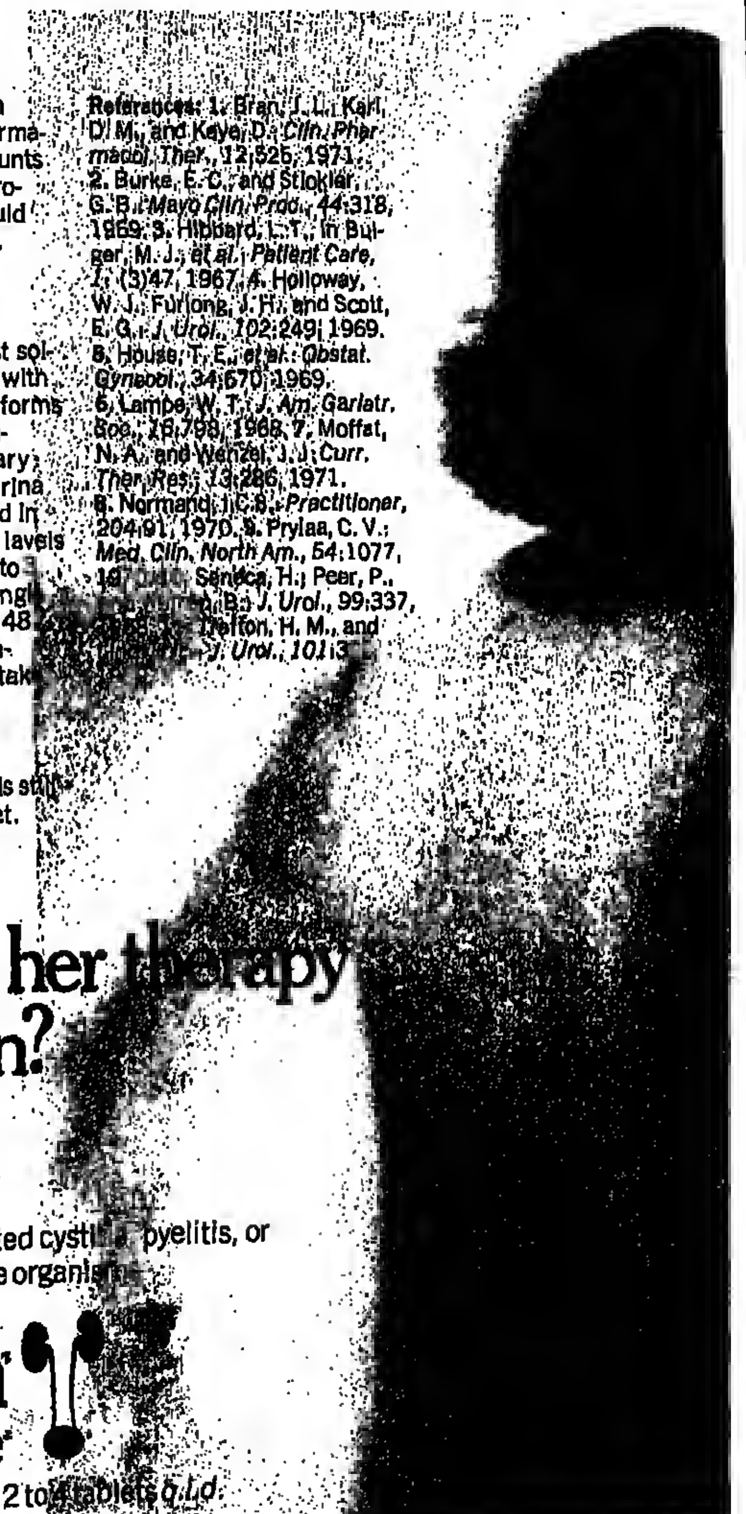




Blue Cross Declines Payment to Outpatients

Continued from page 1

patients $138 a day for a room and the hotel charges are less than one-third of that, Dr. Galin asked Blue Cross to pay for the hotel room.

Blue Cross refused.

Dr. Galin recounted his meeting with Blue Cross's Dr. Peter Rogatz for MEDICAL TRIBUNE: "Dr. Rogatz was very honest. He said, if you have 20 beds but you use only 10 and put another 10 patients in a hotel, you can still fill your 20 beds from the pool of unnecessary admissions or from longer stays.

"He said that Blue Cross would be happy to pay for hotel bills if we simultaneously reduced the number of beds in the hospital."

Dr. Galin then went to Flower Fifth Avenue's administrators and asked them to close beds.

"They wanted literally to kill me" after hearing the suggestion, he related. "But the patient would get much better medical care on an outpatient basis because I do them a lot more good in my office, where I have all the equipment, than I do when I walk into their rooms in the hospital."

Tendency to Fill Beds

Dr. Rogatz confirmed the discussion with Dr. Galin and told MEDICAL TRIBUNE that if outpatient surgery costs were to be covered by Blue Cross, the surplus of inpatient facilities would increase—and "where there is a surplus of beds there is a tendency to fill them, willy-nilly, and to do unnecessary surgery.

"We're going to have to close some inpatient surgical facilities. My whole position with any doctor or hospital is that we'll look for a way to finance outpatient surgery if you'll look for a way to cut inpatient service.

"For instance, set up an ambulatory care program right in the space where the [excess] beds are."

But he admitted that Blue Cross has been unable to convince local hospitals to close surplus facilities.

Nor has it been exceptionally successful in reducing unnecessary hospitalization, because "we may know we're being sold a bill of goods but we can't prove it. The doctor can cook up [reasons] to justify hospitalization, and if we deny payment, it's the patient who becomes the victim."

The president of the national Blue Cross Association, Walter J. McNerney, told MEDICAL TRIBUNE that outpatient surgical procedures and separate facilities for such surgery "are desirable to the extent that they are qualified facilities and not additional to existing beds. They should substitute for hospital beds.

"But I doubt whether we're going to pay for motel rooms. The lack of control over a situation like that is obvious.

"There is a need for [effective] legislation to control the number of beds."

"We have not recognized the damage to the public health that is done by the existence of unnecessary beds," Dr. Rogatz warned, adding, "Proper regulatory authority ought to exist."

"I recognize the merits" of Dr. Galin's proposal, and "we will look at it very seriously," he said.

Osteosarcoma: Transfer Factor Prolongs Lives

Continued from page 1

Stern Symposium on Perspectives in Virology.

Lymphocytes from osteosarcoma patients themselves, as expected, showed minimal cytotoxicity to cells in tests.

Of more than 60 normal controls—persons who had not had household contact with osteosarcoma patients (although some were from households containing patients with other types of malignancy)—only one had lymphocytes with significant cytotoxicity for osteosarcoma cells, and this person was an undertaker.

By contrast, approximately 20 per cent of the close contacts of the osteosarcoma patients had cellular immunity to osteosarcoma cells but not to any of the control cells used in the tests (matching fibroblasts, fibrosarcoma cells, and hypernephroma cells).

Dr. Fudenberg said the study also demonstrated the potential value of transfer factor in treating these patients and provided a guideline for better selection of donors.

The cytotoxicity assay used to test lymphocytes was developed by Dr. Alan S. Levin, a coinvestigator at the medical center. Tumor cells to be tested are labeled with Cr^{51} and then incubated with donor lymphocytes. Cell killing is measured by chromium release.

A chromium release greater than 35 per cent was the criterion for cellular immunity. This significant cytotoxicity was observed in 20 per cent of close contacts of patients. Some of these normal donors had greater than 50 per cent chromium release, while fewer than 1 per cent of the controls showed a release of more than 7 per cent.

Treatment of osteosarcoma patients with the tumor-specific transfer factor obtained from "hyperimmune" donors causes a rise in cytotoxicity, the investigator said. Since maximum activity is the goal of therapy, a 50 per cent release is now considered the minimum for donor material.

Isotope Scanning Provides Details Of Acute Infarct

Continued from page 1

atable tetracycline labeled with technetium^{99m}. In dog atudies, uaing e scintillation scanner, the fovestigators found that the concentration of tbe radiolsotope within infarcted tissue could be detected as early as four hours after infarction. At 24 hours the concentretion reached in the aecrotic myocerdium is "seven times higher than in the normal ventricle," tba group reported.

The cilnical series at Peter Bent Brigham Hospitnl included 20 heart patients in a coronary care uuit ead eight patients with no cvideace of chronic or scute ischemic heart disease who served as controls. Fourteen of the CCU group had cliaicel evidence of an AMI, including 10 with transmurnl infarctions end four with a nontransmural infarct. The CCU patients were studied at bedside, following intravenoua lajection of the labeled tetracycline, within 24-48 hours of admission.

No Focal Myocardial Uptake

"In the 28 patients without evidence of cardiac disease," said Dr. Holman, "ao focal myocardial uptake wes seen 24 hours efter iatravenous iajection of T^{99m}-tetrecycline. Focal uptake of [the labeled antlbiotic] waa present in all 14 patients with evidence of acute transmural or acute aontransmural lafarctions on the initial examinetion 24 hours efter injection."

In five patients with en equivocal diagnosis, the scan was normal in three; it was normal also io one paticat with a final diagnosis of recurrent arrhythmia.

Dr. Holman explained thet scans made earlier than 24 houra efter injection were unsatisfactory because tbe blood levels of tbe circulating tagged antlbiotic were still too ligb to permit accurate separation of the cerdiac pool from the area of infarction.

"It was only on the 24-hour scintiscan, wben blood levels bed fallen to less tban 25 per cent of the injected doae, that focal areas of increased T^{99m}-tetracycline in the myocardium could be accurately identified."

A significant findiag was the observation thet focal myocardial activity was maximal at between one and three days after tbe onset of chest pein and could not be detected at three to 15 days. The finding suggests that tbe test is useful in diatinguishing a fresh inferct from an old one, Dr. Holmao said.

Coauthors were Drs. Guillermo A. Cook, Michael Lesch, Franklin Zwelman, and John Temte; Mrinal K. Dewangee, Ph.D.; and Drs. Bernard Lown and Richard Gorlin.

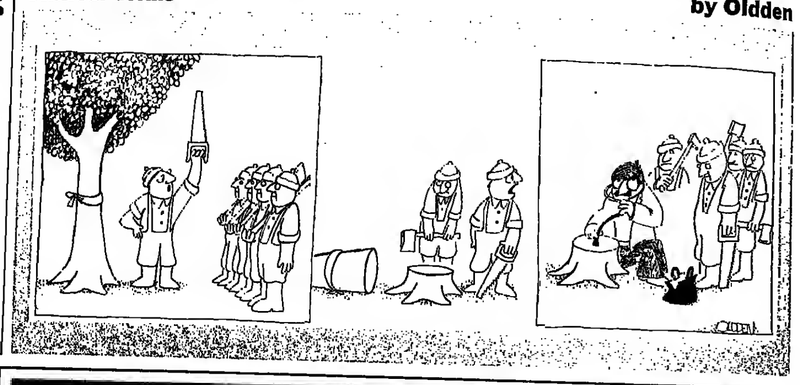
Abortion Policy Stands

Medical Tribune Report

LAKE SUCCASA, N.Y.—The Medical Society of the Stete of New York has reaffirmed its 1970 positlon, thet all terminations of pregnancy beyond the 12th week sbould be performed only in a hospital on an iopatieot basis.

Clinical Trials

by Oldden



Continued from page 11

our children and their children, it is essential that the emotionnlism nbout abortion and other forms of conception control be superseded by the common sense nccessitated by the cold, hard fscts.

C. ROBERT SWANBECK, M.D.
Fresno, Calif.

Belling the Gun—1

According to Dr. Stefnn A. Pesternack ("Current Opinion," Jnnuary 23) "the general nvailability of lnndguns facilitates violent crimes." Likewise, the general availability of intoxicnnts facilitates the abuse of the use of intoxicants; or again, the general nvailability of automobilcs facilitates the dcath on the highways, and so on.

The problem of ebuse of use cnnnot be solved by confiscating or restricting the object or material man uses to abuse himself or others. The first recorded violent crime was perpetrated by Cain. Did Cain murder his brother bccause there was a stone or club nearby? (Scripture does not elaborate.)

Man lns come n long way since the time of Cain, but he continues to do himself in becnuse of his own perversity.

RICHARD B. HOMAN, M.D.
Cincinnati, Ohio

Belling the Gun—2

Dr. Stefan A. Pasternack's article on "Handguns and Homicide," while informative, does not mention, curiously, a single word about proper training in firearm safety for owners of guns and control of those who should not own guns.

We hear daily, "Hend guns kill more friends than enemies." Many responsible citizens keep their children away from firearms "to make it n safer world for children." Is this trend indeed safer —can recent history teach us anything?

Maj. Spencer Chapman, who fought in Malaya in World War II, reminisces in his excellent book *The Jungle is Neutral* on the profound bewilderment and inadequacy for ermed resistance of the Malay, once fierce warriors, who had been trained by the British Colonial Administration to pacific submission.

On the other hand, confronted with protracted warfare, the gentle and peaceful Vietnamese, who were thought by the French to be totally lacking in soldierly behavior, proved themselves otherwise. Would 6,000,000 Jews have perished had they had the know-how of the contemporary citizens of Israel?

For the moment, it is not likely that firearms or violence will be eliminated from among us, and it is reasonable to conclude that those who so desire should be provided with adequete teaching and training io the safe and lawful handling of firearms.

Outlawing firearms has not worked out to provide peace in Northern Ireland. Outlawing firearms would heve doomed Israel at its birth.

O. DABEART, M.D.
San Diego, Calif.

Greece Begins Drive On Echinococcosis

Medical Tribune World Service

ATHENS—Greece has launched a nationwide educational campaign to alert the public to the denger of echinococcosis.

The extension of hospital services hes revesled that the number of persons infected with the lervsl form of Echinococcus gremlosus has been increasing in the last 10 years. Latest figures show that Greece's incidence of surgical cases, around 17 per 100,000, is the second highest in the world, exceeded only by Uruguay's 18.2 per 100,000.

The high morbidity in this country is attributed mainly to the great number of sheep and dogs, the high rate of their infection, and the leck of intensive control measures. The only known host of E. grenulosus, Greek health authorities said, is the dog, and, as an iotermediate host, the sheep tops the list of domestic aoimals.

Medicine on Stamps

N. A. Semashko

Nikolai Aleksandrovitch Semashko (1874-1949), femoua public health worker, was honored by the Soviet Union with e atemp in 1964. His political interest in the health welfare of workers in the Orlov end Samare regions caused his expulsion after the 1905 revolution. He worked with Lenin in Switzerland, returning to Rusala in 1917 for active participation in the Revolution. Under Lenin and, later, Stalia, he served es the People's Commisar of Public Health end organized the Soviet Public Health System.

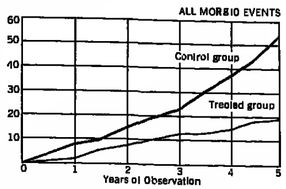
Text: Dr. Joseph Kier
Stamps: Minkus Publications, Inc., New York

The patients were veterans who thought all their battles were over...

The VA studies proved otherwise.[1,2] They had to be treated for hypertension.

The VA Study in 1967, utilizing 143 male patients with diastolic pressures averaging 115 through 129 mm Hg, indicated that patients with moderately severe diastolic pressure significantly benefit from antihypertensive therapy.[2]

Further, the study in 1970, which examined effects of treatment in male patients with diastolic pressures averaging 90 through 114 mm Hg, demonstrated that even in less severe hypertensive ranges, therapy exerted a beneficial effect.[1] The estimated risk of developing a morbid event over a 5-year period was reduced from 55% to 18%. The degree of benefit derived from treatment was related to prerandomization blood pressure levels.[1]



Estimated cumulative incidence of all morbid events over a five-year period as calculated by life-table method, for patients with diastolic pressures averaging 90-114 mm Hg.[1]

Control was achieved[1,2] with... hydrochlorothiazide

provides a mild hypotensive effect through fluid volume control; potentiates the activity of other antihypertensive agents.[1-5]

plus reserpine

lowers blood pressure through sympathetic inhibition;[3-5] also produces a central sedative effect which may prove especially useful in the management of the stress-reactive patient.[5]

plus hydralazine

the unique action of hydralazine lowers blood pressure through direct vasodilation to reduce peripheral resistance.[3-5]

Only one antihypertensive agent contains all three components used in the VA studies.[1,2]

In the VA studies, Ser-Ap-Es itself was not used. However, all the components of Ser-Ap-Es were used in varying combinations.[1,2]

Note: Use Ser-Ap-Es cautiously in patients with advanced renal damage or cerebrovascular accident. Discontinue at first sign of mental depression.

Since antihypertensive therapy is often a life-long—as well as life-preserving—procedure, patient adherence to a long-term regimen assumes critical importance in therapeutic success.

Ser-Ap-Es contains all the antihypertensive medication many patients will need.

The basic drugs used in the VA studies—hydrochlorothiazide, reserpine, and hydralazine—are original products of CIBA research.

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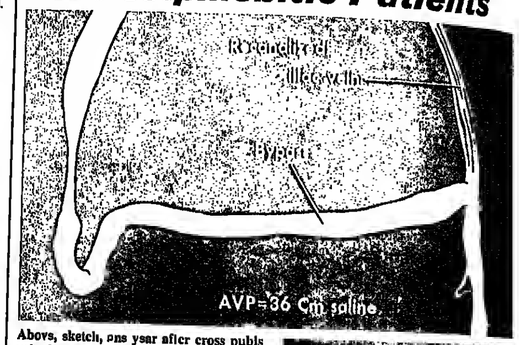
Please turn page for brief prescribing information.

Ser-Ap-Es®
reserpine 0.1 mg
hydralazine hydrochloride 25 mg
hydrochlorothiazide 15 mg

CIBA

Vein Reconstruction Advised For Postphlebitic Patients



Above, sketch, one year after cross pubis vein bypass graft, showing functioning graft and a normal AVP of 36 cm. saline. Right, sketch of phlebogram before bypass showing occlusion of the common femoral veins with multiple collaterals and ambulatory venous hypertension of 130 cm. saline.

Medical Tribune Report

CLEVELAND—An aggressive approach to postphlebitic disease, including venous reconstruction, is recommended in a paper prepared by a vascular surgeon here for presentation to an international meeting next month in Switzerland.

Dr. E. A. Husni notes that family physicians and internists may not be sufficiently aware of the role that venous reconstruction can play in rehabilitating the postphlebitic patient.

"When significant signs and symptoms are present and demonstrably related to segmental venous disease and in those cases where venous occlusion is due to extraluminal factors," says Dr. Husni, "venous reconstruction offers a reasonable chance for a cure and/or significant alleviation of the pathologic physiology."

Aggressive Management Useful

The surgeon, associate director of the department of surgery at Huron Road Hospital, points out that even before acute venous thrombosis merges into the first stage of postphlebitic disease, aggressive management can be useful. Therapeutic anticoagulation and surgical venous thrombectomy in cases of massive thromboses, he says, may help to "limit extension of the thrombic process and will confine the irreversible damage to short venous segments."

"In a fair percentage of these cases," he adds, "the resulting postphlebitic disability may be entirely absent or minimal and easily controlled by good hygiene and elastic support."

Dr. Husni stresses that in undertaking venous reconstruction for postphlebitic disease, certain prerequisites must be established, if the procedure is to be successful. These include the presence of segmental venous disease, ambulatory venous hypertension, lack of acute inflammation, and the availability of a healthy vein for bypass.

Incompetence of the iliac and/or common femoral veins, he said, lends itself to a cross pubis bypass procedure that enables venous blood to drain from the postphlebitic limb across the pubis into the normal contralateral femoral vein.

When the femoral and/or popliteal veins are the site of damage, he says, an in situ saphenopopliteal bypass should be considered. In this case, the ipsilateral saphenous vein is freed below the knee and transected, and its proximal end anastomosed to the popliteal vein or one of its major branches. This procedure creates a low resistance channel for venous drainage from the leg and foot.

Finally, in advanced cases, the surgeon observes, the results of venous reconstruction "may be enhanced by reducing the total cross-sectional area of the venous pool of the leg" by the removal of all secondary varicosities in the limb, with ligation of the connecting perforating veins.

New Influenza A Variant Expected to Strike U.S.

Medical Tribune World Service

GENEVA, SWITZERLAND—A new variant of influenza A to which Britain and the United States appear to be susceptible has been spreading in recent months and is likely to become the prevalent one in the Northern Hemisphere, WHO reports.

The new variant is called A/Port Chalmers/1/73 and first produced epidemics last September and October in New Zealand and western Australia. It was isolated in England during the same period and was also identified at the same time in France, Lebanon, Japan, and Hong Kong.

Medicine in Hanoi Impresses Visiting Surgeon, Dentist

Continued from page 3

problems they had or developed had to be postponed until the hostilities were over. Now that there is so-called peace, they are turning their attention to the kids and the old people."

Because U.S. planes bombed so many hospitals and other institutions where care could be given, a tremendous amount of effort is going into cleaning up the debris and rebuilding, filling bomb shelters, and planting trees near them, Dr. Scheman said.

"They go at it 24 hours a day in three shifts. And they would keep the operating rooms open around the clock, too, if they could, but they haven't enough manpower."

Drs. Kimmelman and Scheman treated almost no war injuries. The dentist saw a whole spectrum of problems, from cleft palates and other birth defects to disease and children whose problems were the result of sheer neglect because the country had to face other priorities during the war. The ophthalmologist treated birth defects, trachoma, detached retinas, as well as many of the diseases he is daily faced with in the United States.

War Injuries Already Treated

"It's funny," Dr. Kimmelman mused. "When I got the invitation from the Ministry of Health, I spent days thinking about pellets and things in the eyes and eyes torn up as a result of the war. How are we going to get all those foreign bodies out? But they must have treated all their war injuries in the year before we came, or elsewhere, or something. They were interested in how we worked with the diseases and conditions that afflict the common people."

Dr. Kimmelman found himself performing trabeculotomy, goniotomy, and cataractectomy. "They have a rather high incidence of congenital glaucoma in Vietnam; most of it is narrow-angle glaucoma, which is just the opposite from the United States, and there are twice as many women with glaucoma as men." He noted also a high incidence of congenital cataracts in Vietnam but could suggest no reason for the high levels of either glaucoma or cataracts.

"The North Vietnamese believe that there has been a higher incidence of congenital defects since the bombings and defoliations with chemical agents," he said.

North Vietnamese are still concerned with the fighting in the South, Dr. Kimmelman observed, and they feel it could blow up any day into a full-scale war. "They feel under constant attack by the Saigon forces, that the U.S. Government is behind a great deal of intimidation, and that the U.S. may again bomb the North.

"But they see *us* very differently. They know about the polls that showed Americans wanted to get out of the war at the end. They see a difference between the power structure and the people. They say that the problem is that the American people have been made to think—that's how they put it, made to think—that the war is over and that there is only a scuffle between two factions in the South, and that if the Americans knew the truth, they would do something about it."

Horseshoe Crab Helps Detect Pyrogens

The horseshoe crab, long a pest to fishermen, now has a market. Its blood is being used by Travenol Laboratories to detect the presence of pyrogens in the company's drugs and intravenous solutions.

Flu Outbreaks Reported In 19 States; All B Variant

Medical Tribune Report

ATLANTA, GA.—Influenza outbreaks, primarily affecting school children in rural areas, have been reported in 19 states, according to the Center for Disease Control here. Reported mortality from pneumonia-influenza is well below normal seasonal levels; all isolations have been identified as the B variant.

Movable Cast Accelerates Recovery of Operated Knee

Medical Tribune Report

ANAHEIM, CALIF.—Patients wearing movable casts after radical knee surgery regained normal mobility faster than those with standard casts, Philip D. Gollnick, Ph.D., of Washington State University, said here in a report on a Swedish experimental rehabilitation program.

He told the American Medical Association's 15th National Conference on the Medical Aspects of Sports that the experimental program covered 10 athletes (nine men and one woman) with chronic ruptures of the anterior cruciate ligament. Identical surgical repair methods were used, and the subjects were randomly assigned to two groups for rehabilitation.

Study results revealed that "patients fitted with a movable cast had less muscle atrophy on removal of the cast than those with the closed cast. The return of normal mobility of the knee joint also occurred faster in those patients fitted with movable casts. Furthermore, they were able to resume athletic training after half the convalescent time of those with the standard casts."

Dr. Gollnick urged "greater emphasis on the development of programs that utilized prolonged isotonic exercise for rehabilitation during and after the period of cast wearing."

Most Employ Isometrics

Most rehabilitative exercise programs following surgery of the knee employ isometric exercise, the only kind that patients can perform when the standard cast is applied.

"However," Dr. Gollnick said, "study results show that this type of exercise is ineffective for maintaining the oxidative capacity of the muscles, . . . which is strongly correlated with the ability to perform endurance exercise. The use of a movable cast may be part of the solution to this."

IMMATERIA MEDICA

By DUDLEY STRAUS

The Animal Kingdom

• Birds flew backwards after being injected with a component of marijuana, a congress of the Australian and New Zealand Association for the Advancement of Science was informed by a University of Western Australia researcher.

He also reported that doses of the same component caused dogs to stand in a trancelike state.

• Elephants never forget, at least not in eight years. According to the *New York Times* story, Tuy Hoa, an elephant belonging to the Portland, Ore., zoo, was taught to press a lighted panel on a special device in order to release a cube of sugar.

After an eight-year hiatus, the device was produced once again, and Tuy Hoa immediately began getting the sugar, pushing the lighted panel 19 times out of 20 tries.

• A wooden monkey named SAM (Sound Activated Monkey) is being used in England to encourage handicapped children to use their voices. SAM climbs a palm tree under the impetus of the sound produced by the child, the British Information Service informs us.

What grabbed us is that it is available from an outfit named Woggle Sales Ltd. SAM from Woggle.

This lovely giraffe is here because it's lovely, not for informative purposes. The only information on the picture, sent us by the World Health Organization, was the following: "The giraffe . . . Captive animals live longer than animals in the wild, they are better fed and more comfortable. . . . *La girafe . . . Dans les zoos, la longévité est plus grande que dans la nature. . . .*" Oh, well.

"Comings and goings of ants

"Let p be the proportion of possible sites that a species actually occupies; then the rate at which new sites are occupied is proportional to the sites already occupied and sending out colonizers times the sites available for new colonization, and the loss of sites due to local extinction is proportional to the occupied sites. Thus, $dp/dt = mp(1 - p) - xp$, where m and x are the migration and extinction rates for the species in question. The equilibrium level is $\hat{p} = 1 - x/m$."

—*American Scientist.*

All well and good, but they're still ruining the picnic.